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ABSTRACT

In an earlier pilot study of the narrative sections of Navy performance evaluations for senior enlisted personnel in pay grade E-7, it was determined by content analytic techniques that it is possible to differentiate between the performance of typical and superlative chief petty officers based on the narrative content of Evaluation Reports. A second study attempted to cross validate the pilot study results on new Evaluation Reports for senior enlisted men in the same two occupational ratings (AT's and BT's) represented in the pilot study sample and to extend the content analysis to two different occupational ratings (CS's and RM's) in order to test the generalizability of the content analytic techniques developed earlier. As a further refinement, the cross validation and generalization samples were analyzed without any knowledge of the ratee's relative position in the upper half of the marking scale on Performance of Duty (the criterion variable). A reliability study was also conducted whose objectives were twofold: (1) to determine the level of agreement among four individuals all of whom independently would perform a content analysis of the same corpus of 48 Evaluation Reports, and (2) to investigate if nonresearchers could be trained successfully to apply the complex content analysis methodology developed in the pilot study. This report presents detailed evidence that the pilot study findings essentially were extendible to the blind cross validation sample consisting of the same two ratings and also were generalizable to two different occupational ratings. Despite the initial expectation that it would be extremely difficult to train nonresearch-oriented individuals to consistently index the narrative sections of Evaluation Reports, the surprising result in the reliability study was that in only six training sessions a quite respectable level of agreement was achieved. (Author)

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CROSS VALIDATION AND GENERALIZATION OF A CONTENT ANALYSIS OF THE NARRATIVE SECTIONS OF NAVY PERFORMANCE EVALUATIONS FOR SENIOR ENLISTED PERSONNEL

April 1973

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13. ABSTRACT

(U) In an earlier pilot study of the narrative sections of Navy performance evaluations for senior enlisted personnel in pay grade E-7, it was determined by content analytic techniques that it is possible to differentiate between the performance of typical and superlative chief petty officers based on the narrative content of Evaluation Reports. A second study attempted to cross validate the pilot study results on new Evaluation Reports for senior enlisted men in the same two occupational ratings (AT's and BT's) represented in the pilot study sample and to extend the content analysis to two different occupational ratings (CS's and RM's) in order to test the generalizability of the content analytic techniques developed earlier. As a further refinement, the cross validation and generalization samples were analyzed without any knowledge of the ratee's relative position in the upper half of the marking scale on Performance of Duty (the criterion variable). A reliability study was also conducted whose objectives were twofold: (1) to determine the level of agreement among four individuals all of whom independently would perform a content analysis of the same corpus of 48 Evaluation Reports, and (2) to investigate if nonresearchers could be trained successfully to apply the complex content analysis methodology developed in the pilot study. This report presents detailed evidence that the pilot study findings essentially were extendible to the blind cross validation sample consisting of the same two ratings and also were generalizable to two different occupational ratings. Despite the initial expectation that it would be extremely difficult to train nonresearch-oriented individuals to consistently index the narrative sections of Evaluation Reports, the surprising result in the reliability study was that in only six training sessions a quite respectable level of agreement was achieved.

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This research project has concerned itself with developing a valid content analysis methodology for analyzing the narrative sections of Navy performance evaluations for senior enlisted personnel in pay grade E-7 in order to determine if it is possible to differentiate between the performance of outstanding chief petty officers and their slightly less qualified colleagues. This technical report presents the findings resulting from an attempt to cross validate and generalize the results of an earlier pilot study and to elucidate the issues of trainability and reliability. The continuing investigations being conducted under the auspices of this project are sponsored by the Personnel and Training Research Programs, Psychological Sciences Division, Office of Naval Research. The Navy Personnel Research and Development Center (NPRDC), San Diego, California, provided the data bases used in this research, supplied the keypunching required in the initial pilot study, and performed the computer calculations of the Mann-Whitney U tests for both the pilot study and the cross validation and generalization study. The correlation matrices reported in Appendix C were also computed by NPRDC at the computing facility of the Naval Electronics Laboratory Center in San Diego. The continuing support by ONR and the cooperation from NPRDC are gratefully acknowledged. Marshall J. Farr, Ph.D., Director of Personnel and Training Research Programs, Office of Naval Research, and Joseph L. Young, Ph.D., Assistant Director of Personnel and Training Research Programs, Office of Naval Research, have provided intellectual input and encouragement. Bernard Rimland, Ph.D., former Director of the Personnel Measurement Research Department, Naval Personnel and Training Research Laboratory, and David W. Robertson and Marjorie H. Royle of his department gave willingly and extensively of their time in obtaining the data bases and conferring about issues of experimental design and statistical methodology. Their guidance provided insight into potential applications for this research endeavor. To all of these individuals I wish to express my special appreciation.

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Keypunching of the cross validation and generalization samples was performed at the UCLA Health Sciences Computing Facility, as were the descriptive statistics, *t* tests of mean difference, and the stepwise discriminant analyses. This facility operates under the directorship of Wilfrid J. Dixon, Ph.D., and is sponsored by NIH Special Research Resources Grant RR-3. All of the agreement statistics calculated for the reliability study were performed on the Olivetti P602 microcomputer at R-K Research and System Design.

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Diane M. Ramsey-Klee, Ph.D.
Principal Investigator

SUMMARY OF FINDINGS

In an earlier pilot study of the narrative sections of Navy performance evaluations for senior enlisted personnel in pay grade E-7, it was determined by content analytic techniques that it is possible to differentiate between the performance of typical and superlative chief petty officers based on the substantive content of Evaluation Reports. The results of this pilot study strongly suggested that there are stable differences among the performance characteristics of chief petty officers in the various portions of the upper half of the marking scale on Performance of Duty that are reflected in narrative statements written by evaluators.

The findings from the pilot study were considered to be provocative enough to warrant further investigation. Therefore, a second study was embarked upon to attempt to cross validate the pilot study results on new Evaluation Reports for senior enlisted men in the same two occupational ratings (AT's and BT's) that were represented in the pilot study sample and to extend the content analysis to Evaluation Reports for senior enlisted men in two different occupational ratings (CS's and RM's) than those investigated in the pilot study in order to test the generalizability of the content analytic techniques developed earlier. As a further refinement, the cross validation and generalization samples of Evaluation Reports were to be analyzed without any knowledge of the ratee's relative position in the upper half of the marking scale on Performance of Duty (the criterion variable). In the pilot study the criterion data were made available early in the study, thus introducing the possibility that this knowledge subconsciously might have influenced the content analysis that was performed. This factor was controlled for in the second study by withholding the criterion information until the content analysis of the narrative text had been completed.

Also of concern in the pilot study were the issues of reliability and trainability, although the scope of the small initial research effort did not permit these aspects to be studied in any substantial way. Therefore, in designing the second investigation these issues were dealt with by including a reliability study whose objectives were twofold: (1) to determine the level of agreement among four individuals all of whom independently would perform a content analysis of the same corpus of 48 Evaluation Reports, and (2) to investigate if nonresearchers could be trained successfully to apply the complex content analysis methodology developed in the pilot study.

In the earlier pilot investigation, the Navy Personnel Research and Development Center (NPRDC), San Diego, selected a sample of 225 Evaluation Reports for senior enlisted personnel in pay grade E-7 including 145 Aviation Electronics Technicians (AT's) and 80 Boilermen (BT's). All 225 Evaluation Reports were drawn from the top half of the marking scale on 19A-PERFORMANCE OF DUTY of Evaluation Report Form NAVPERS 1616/8. This form subsequently has been replaced by another form that can be scanned by an optical character reader; however, the content of the two forms is essentially the same. The pilot study sample of 225 Evaluation Reports was divided equally into three criterion groups---Upper, Middle, and Lower---corresponding to three continuous segments of the upper half of the marking scale on 19A-PERFORMANCE OF DUTY.

In the study being reported here, NPRDC also selected the sample of Evaluation Reports to be analyzed. The cross validation sample consisted of 222 Evaluation Reports from the same two ratings that were used in the pilot study (i.e., AT's and BT's). In addition, a generalization sample consisting of 222 Evaluation Reports was also selected by NPRDC from two different ratings in order to ascertain the generalizability of the content analytic methodology developed in the pilot study. The two ratings from which the generalization sample was drawn were Commissarymen (CS's) and Radiomen (RM's). The N's in the various occupational ratings represented in the cross validation and generalization samples were 138 AT's, 84 BT's, 60 CS's, and 162 RM's. The cross validation sample and the generalization sample were each divided equally into the same three criterion groups as the pilot study sample---Upper, Middle, and Lower. Actual criterion group membership for the cross validation sample and the generalization sample was known only to NPRDC until the content analysis of the narrative text had been completed. Consequently, the content analysis of these two samples was conducted in the blind without benefit of knowing to which criterion group each Evaluation Report belonged.

An indexing vocabulary consisting of 29 descriptive labels was devised to encompass the substantive content of the narrative sections of Evaluation Reports. These 29 index terms fell into three major areas---MANAGEMENT FUNCTIONS, SKILLS AND ABILITIES, and PRODUCTIVITY AND ACHIEVEMENT. Under each of these headings there were more detailed terms such as PLANNING, TECHNICAL SKILLS, and AWARDS AND PUNISHMENT, providing the indexer with a 3-level hierarchy of descriptive labels from which to choose. Each sentence of narrative text in the pilot study sample and the cross validation and generalization samples was read carefully and, where appropriate, divided into segments corresponding to the assignment of specific index terms. However, it is not enough to simply label a narrative statement with the most appropriate index term since the statement may have been a highly positive, quite positive, neutral, quite negative, or highly negative one. Therefore, a weighting scale containing five degrees of favorableness/unfavorableness was devised based on the range of adjectives and adverbs that occur in narrative text of this kind. The indexing procedure that was used in this study was the following: The narrative text of each Evaluation Report was read, segmented into distinct statements, and each statement was assigned one or more index terms from the set of 29 possible choices. Each term selected was also assigned a numerical weight from 1 to 5 depending upon the nature of the adjectives or adverbs used as modifiers in the statement. When the entire narrative text of the Evaluation Report had been indexed, the indexing decisions that had been made were recorded on a special indexing form.

A set of 67 quantitative variables was derived from the indexing form used in the content analysis. The first 29 variables reflect the simple frequency with which each index term was used to index a particular section of narrative text. Variable 30 is the sum of these 29 frequencies. Variables 30 through 59 represent the weighted frequency of each index term used to index a particular section of narrative text. Variable 60 is similar to Variable 30 in that it is the sum of the 29 weighted frequencies. Variables 61 through 65 represent the frequency counts over the entire indexing form for all 5 weights, 4 weights, 3 weights, 2 weights, and 1 weights. Variable 66 is the total number of words in the section of narrative text that was indexed.

Variable 67 is the total number of index terms of the 29 available that were used to index the section of narrative text. Profiles or vectors of these 67 values then were prepared for all of the Evaluation Reports contained in each sample. Separate profiles were compiled for the evaluation section (19R) and the justification section (19S) of each Evaluation Report.

Descriptive statistics were computed for each of the three research samples on the 67 quantitative variables. As expected these statistics showed in general that the higher the criterion group, the longer the narrative text. Also, as the evaluator uses more words to describe the ratee, he is more likely to comment on a wider variety of specific areas of the ratee's performance. Correlations among all 67 variables for the evaluation section and for the justification section also were computed for the cross validation and generalization samples as well as the matrix correlating the evaluation section with the justification section on all 67 variables. There were very few high correlations except for the correlations between Variables 1 through 30 and Variables 31 through 60, these two sets of variables being the same except for the method of weighting that was used. Variable 67 (Total Number of Index Terms Used) is a focal variable, correlating highly with Variable 30 (Sum of Variables 1 through 29), Variable 60 (Sum of Variables 31 through 59), Variable 61 (Total Number of 5 Weights), Variable 62 (Total Number of 4 Weights), Variable 63 (Total Number of 3 Weights), and Variable 66 (Total Number of Words in the Narrative Text). Correlations among the variables having to do with the 29 index terms per se were notably low, indicating that these 29 dimensions are relatively orthogonal and represent independent aspects of managerial performance. In the correlation matrix for the evaluation section versus the justification section, no high correlations were evident in either the cross validation sample or the generalization sample, demonstrating that these two narrative sections of Evaluation Report Form NAVPERS 1616/8 are quite independent and should be treated separately.

Both the Mann-Whitney U test and the t test of mean difference were computed on each of the 67 variables for the pilot study sample, the cross validation sample, and the generalization sample. These computations were made for each pair of criterion groups in both the evaluation and the justification sections. The most difficult discrimination to be made is that between the Middle and Upper criterion groups. In the cross validation sample the characteristics that differentiated outstanding CPO's from their slightly less qualified colleagues on the evaluation section were cooperation, grooming and attire, resourcefulness, and productivity and achievement. Cooperation was also implicated as a discriminating variable between the Middle and Upper criterion groups on the evaluation section in the pilot study sample. On the justification section, eight variables showed a statistically significant difference between the Middle and Upper criterion groups in both the pilot study sample and the cross validation sample. When an evaluator is required to justify his marks in evaluating a ratee, he apparently calls out certain areas of performance that distinguish the ratee in the Upper criterion group from his slightly less qualified colleague in the Middle criterion group. Skills and abilities as well as productivity and achievement were the differentiating areas of performance. The ratee in the Upper criterion group also had bestowed upon him more superlative adjectives and adverbs. Total Number of Words in Text and Total Number of Index Terms Used were also discriminating variables.

In the comparison between the Middle and Upper criterion groups on the evaluation section of the generalization sample, Total Number of 5 Weights (Excellent), Total Number of 2 Weights (Poor), and potential were the discriminating variables. None of these variables overlapped with those that were statistically significant for the Middle versus Upper criterion group comparison on the evaluation section of the cross validation sample. Seventeen of the 67 quantitative variables showed a statistically significant difference between the Upper and Middle criterion groups on the justification section for both the cross validation sample and the generalization sample, the most significant of which were Total Number of 5 Weights (Excellent), Total Number of 4 Weights (Good), Total Number of 2 Weights (Poor), Total Number of Index Terms Used, Sum of Variables 1 through 29, Sum of Variables 31 through 59, leadership and directing, communication, cooperation, technical skills, drive, and potential. This finding suggests that there is partial overlap between these two samples. The nonoverlapping areas may be attributed to a difference in the nature of the occupational ratings represented in the cross validation and the generalization samples and/or to unreliability in the indexing procedure, although the results of the reliability study suggest that differences among the four occupational ratings provide a more reasonable explanation for these results than unreliability.

In every pairwise criterion group comparison made for the three research samples using the Mann-Whitney U test and the t test of mean difference, one or more of the five variables involving total number of weights proved to be significantly differentiating. This finding supports the results of the correlational analysis in which the system used for weighting Variables 31 through 59 was highlighted as an important aspect of the content analysis methodology.

It is of considerable interest to learn how well the set of 67 quantitative variables, used in optimal combination, can classify each of the research samples into correct criterion group. A stepwise discriminant analysis program was used to perform this analysis. A special feature of this program allows new cases to be classified by the discriminant functions generated on the original sample. This feature was used to conduct two cross validation studies of the AT's and BT's combined and also of the AT's and BT's considered separately. The results of the two cross validation studies were very similar for the total cross validation sample and the total pilot study sample, for the cross validation AT's and the pilot study AT's, and for the cross validation BT's and the pilot study BT's. These findings support the expectation held at the outset of this investigation that it would be possible to index the cross validation sample in the blind, without knowledge of criterion group membership, and achieve as good classification accuracy as was achieved with the pilot study sample where criterion group membership was known to the indexer. Further, it can be concluded that better classification into the three criterion groups using an optimum combination of the 67 quantitative variables is achieved when the two occupational ratings represented in the pilot study sample and the cross validation sample are treated separately. These findings suggest that classification procedures based on the content analysis methodology developed in this research should be tailored to specific occupations. In all of the stepwise discriminant analyses performed, better classification was achieved in the analysis of the justification section compared to the evaluation section. Classification of each sample by its own

discriminant functions achieved perfect classification for the BT's on the justification section in both the pilot study sample and the cross validation sample. In the pilot study sample, 95 percent of the AT's were classified correctly on the justification section. In the cross validation sample, 93 percent of the AT's were classified correctly on the justification section. The superior classification accuracy achieved for the BT's compared to the AT's indicates that the Aviation Electronics Technician rating may represent a more varied amalgamation of technical activities than the Boilerman rating. Further, it appears that the best classification accuracy than can be achieved on a second sample using the discriminant functions generated on the first sample, with the content analysis methodology developed thus far, is 65 to 70 percent.

In the stepwise discriminant analyses of the generalization sample, all 60 generalization CS's were correctly classified on the justification section. Of the 162 generalization RM's, 89 percent were correctly classified on the justification section. This suggests that the occupational rating, Radioman, may be more heterogeneous and require a greater variety of skills than the Commissaryman rating just as the Aviation Electronics Technician rating may represent a more varied amalgamation of technical activities than the Boilerman rating. It is evident from these results that the content analysis methodology developed initially on the pilot study sample consisting of AT's and BT's was generalizable to a new sample consisting of two different occupational ratings, viz., CS's and RM's.

In the double cross validation of the pilot study sample and the cross validation sample, the best classification accuracy for the sample being cross validated was achieved early in the stepwise discriminant analysis procedure, typically by the fifth step. The key discriminating variables for the evaluation section were Total Number of 5 Weights (Excellent) and Total Number of 2 Weights (Poor). In the justification section without exception the key discriminating variable was Total Number of Index Terms Used. These same three variables were those selected first in the stepwise discriminant analysis of the generalization sample. It appears that the modifying adjectives used by an evaluator to rate a ratee and the range of skills and abilities that a chief petty officer possesses may be key factors in the ratee's superior performance. The results also suggest that a smaller number of dimensions than the full complement of 67 quantitative variables derived from the indexing procedure can be used to identify superlative CPO's whose superior performance recommends them as candidates for promotion to a higher level of responsibility.

In addition to the cross validation and generalization study, a comprehensive reliability study was conducted whose objectives were twofold: (1) to determine the level of agreement among several individuals all of whom independently would perform a content analysis of the same corpus of Evaluation Reports, and (2) to investigate if nonresearchers could be trained successfully to apply the complex content analysis methodology developed in the pilot study.

A set of 48 Evaluation Reports was selected by the Navy Personnel Research and Development Center, representing a cross section of the kinds of reports

included in the overall experimental design for the cross validation and generalization samples. In each of these 48 Evaluation Reports the evaluation section was separated from the justification section so that the narrative comments for each section were not considered together. This resulted in a group of 96 randomized pieces of narrative text to be indexed in the reliability study.

Four individuals participated in the reliability study: (1) the experienced indexer who also indexed the pilot study sample, the cross validation sample, and the generalization sample; (2) the principal investigator; (3) an inexperienced indexer (inexperienced indexer A) with two years of college in the liberal arts; and (4) another inexperienced indexer (inexperienced indexer B) with executive secretary experience. To this end a training manual was prepared by the experienced indexer and the principal investigator to assist the two neophyte indexers in understanding their assignment. Six intensive training sessions were conducted by the experienced indexer in order to try to bring all four indexers up to a common level of expertise before beginning the actual study. Obviously, this objective could only be met partially in view of the varying educational backgrounds of the four reliability indexers and their different levels of previous exposure to the indexing dictionary.

In all of the agreement statistics that were computed, assignment of the index terms was considered to be a separate intellectual task from assigning the corresponding weights based on the modifying adjectives and adverbs. The kappa statistic was the measure of agreement used in analyzing the index terms assigned by the four reliability indexers. The best agreement in selecting index terms was obtained between the experienced indexer and inexperienced indexer A, a kappa of .88 where the maximum kappa possible in this instance was .97. Of the six possible pairwise comparisons between the four reliability indexers, the value of kappa ranged from .71 to .88, with .71 probably representing the lower limit of reliability achievable in a study of this kind. The kappa analysis revealed that the major area of confusion in indexing the reliability data base resided in whether or not to index supposedly factual statements describing the job duties and the qualifications needed for the position that the ratee occupied rather than the ratee's actual performance in this position. All three of the less experienced indexers tended to index these statements as describing the ratee's performance whereas the experienced indexer whom the other three indexers were trying to emulate treated these statements as factual descriptions of the job duties and the qualifications needed for the position. Additional training aimed at clarifying this area of confusion most likely would markedly reduce this type of disagreement and raise the magnitude of kappa.

Analysis of the level of agreement among the four reliability indexers in assigning numerical weights to each index term selected, based on the modifying adjectives and adverbs, was performed differently than the analysis of the level of agreement in selecting the index terms themselves, because the numerical weights assigned to the index terms constituted an ordinal scale whereas the index terms themselves formed a nominal scale. In the six pairwise comparisons between the four reliability indexers, six product moment correlation coefficients were computed as well as another agreement statistic, weighted kappa, in order to determine if weighted kappa agreed with the results of the correlational analysis. In the correlational analysis, once again the best

agreement in assigning numerical weights to each index term selected was obtained between the experienced indexer and inexperienced indexer A, a correlation coefficient of .80. These findings corroborate each other in suggesting that an individual without a research background in only six training sessions can be taught not only how to select the most appropriate index terms but also how to consistently assign weights to these terms based on the modifying adjectives and adverbs. The other five correlation coefficients were lower, but none less than .64.

As was expected, the weighted kappa values were similar in magnitude to their correlation coefficient counterparts. Again, the best agreement as measured by weighted kappa was obtained between the experienced indexer and inexperienced indexer A, a weighted kappa of .78. If the area of confusion involving overindexing on the part of inexperienced indexer A was ignored in the analysis, the value of weighted kappa increased to .82. The gain in the value of weighted kappa is not very large for the comparison between the experienced indexer and inexperienced indexer A when weighted kappa was recomputed in this fashion. However, the gain was quite substantial in the other comparisons between the experienced indexer and the principal investigator and between the experienced indexer and inexperienced indexer B. This suggests that with additional training to clarify this area of confusion and with more indexing experience, the level of agreement among the four reliability indexers could possibly be raised to a value of .80 to .85 as measured by any of the three agreement statistics employed in this study. However, values in the .90's are the ultimate objective.

In conclusion, it might be of interest to point out that the initial expectation in beginning this reliability study was that it would be extremely difficult to train nonresearch-oriented individuals to consistently index the narrative sections of Evaluation Report forms using the complex content analysis methodology that had been developed in the pilot study. The surprising result is that in only six training sessions a quite respectable level of agreement was achieved. Moreover, one of the inexperienced indexers showed a higher level of agreement with the experienced indexer than the principal investigator did, and the other inexperienced indexer agreed with the experienced indexer almost as well as the principal investigator. The intuitive feeling that the reliability indexers had after completing the reliability study was that the most difficult part of learning to index consistently was over and that with additional practice and some review training sessions they could improve their indexing skill.

SECTION 1. INTRODUCTION

A goal of on-going research being conducted by the Navy Personnel Research and Development Center, San Diego, is to develop Navy enlisted performance evaluation formats which will be effective in holding down the pile-up of marks at the high end of the marking scale and in achieving a distribution of marks which tapers off sufficiently at the high end of the scale to permit greater differentiation among ratees, making evaluations more useful, especially when small selection opportunities are involved.[1] Thus far the narrative sections of Evaluation Reports have not been exploited to any great extent in the design of experimental forms because narrative text tends to resist easy analysis. However, in a pilot investigation of the narrative sections of Navy performance evaluations for senior enlisted personnel in pay grade E-7 conducted by R-K Research and System Design, it was determined by content analytic techniques that it is possible to differentiate between the performance of typical and superlative chief petty officers based on the substantive content of Evaluation Reports.[2] The results of this pilot study strongly suggested that there are stable differences among the performance characteristics of chief petty officers in the various portions of the upper half of the marking scale on Performance of Duty that are reflected in narrative statements written by evaluators. These differences are both identifiable and quantifiable. In the pilot study the significant differences resided in the superiority of the uppermost criterion group with respect to managerial skills and abilities, particularly as demonstrated in the areas of organization, initiative, cooperation, leadership and directing, professionalism, productivity and achievement, more awards and fewer punishments, more drive, more superlative attributes, and fewer qualified statements reflecting fair performance.

The findings from the pilot study were considered to be provocative enough to warrant further investigation. Therefore, a second study was embarked upon to attempt to cross validate the pilot study results on new Evaluation Reports for senior enlisted men in the same two occupational ratings that were represented in the pilot study sample and to extend the content analysis to Evaluation Reports for senior enlisted men in two different occupational ratings than those investigated in the pilot study in order to test the generalizability of the content analytic techniques developed earlier. As a further refinement, the cross validation and generalization samples of Evaluation Reports were to be analyzed without any knowledge of the ratee's relative position in the upper half of the marking scale on Performance of Duty (the criterion variable). In the pilot study the criterion data were made available early in the study, thus introducing the possibility that this knowledge subconsciously might have influenced the content analysis that was performed on the narrative sections of the Evaluation Reports. This factor was controlled for in the second study by withholding the criterion information until the content analysis of the narrative text had been completed.

Also of concern in the pilot study were the issues of reliability and trainability, although the scope of the small initial research effort did not permit these aspects to be studied in any substantial way. Therefore, in designing the second investigation these issues were dealt with by including a reliability study whose objectives were twofold: (1) to determine the level of agreement among four individuals all of whom independently would perform a

content analysis of the same corpus of Evaluation Reports, and (2) to investigate if nonresearchers could be trained successfully to apply the complex content analysis methodology developed in the pilot study.

The second study attempting to cross validate and generalize the pilot study results and to elucidate the issues of reliability and trainability was conducted during the contract year March 1, 1972 to February 28, 1973. This technical report presents the findings resulting from this follow-on investigation. Section 2 of this report describes the nature of the cross validation and generalization samples. Section 3 presents the content analysis methodology that was used in both the pilot study and the second study. Section 4 discusses the statistical methodology that was used to analyze the data and the results that were obtained. Section 5 describes the design of the reliability study and presents the results achieved. In Section 6 future areas of investigation are delineated.

SECTION 2. NATURE OF THE PILOT STUDY SAMPLE AND THE CROSS VALIDATION AND GENERALIZATION SAMPLES

As a result of research conducted at the Navy Personnel Research and Development Center, San Diego, to develop experimental forms for evaluating personnel in pay grades E-7 (Chief Petty Officer), E-8 (Senior Chief Petty Officer), and E-9 (Master Chief Petty Officer), a new evaluation report form---NAVPERS 1616/8---was introduced into operational use in January 1969 (see Figure 1).* This form had been demonstrated as effecting a substantial improvement in the distribution of operational evaluation marks over the previously used form, NAVPERS 792, as reflected in a reduced pile-up of marks at the high end of the marking scale and greater differentiation among ratees.[1]

Section 19, Evaluation Section, of Evaluation Report Form NAVPERS 1616/8 is designed to permit the rater (evaluator) to *compare* the ratee with all others of his rate known to the rater on 13 specific aspects of on-job performance. Ratings are made by marking the column of the rating distribution into which the rater evaluates that the ratee falls for each of the 13 specific aspects of on-job performance plus an overall evaluation of the ratee (for example, top 1% for superlative performance). Section 19R of this form provides space for the rater to write narrative evaluation comments to describe further the ratee's performance and qualifications. Section 19S of this form provides space for the rater to write narrative justification comments and is required to support any marks assigned to the top or bottom 10, 5, or 1% columns of Section 19.

Sections 19R and 19S are referred to as the narrative text of the Evaluation Report since they are the only portions of the report where the rater uses his own words to assess the on-job performance of the senior enlisted man that he is rating. Thus far the narrative evaluation and justification sections of the Evaluation Report have not been exploited systematically in making personnel decisions because narrative text tends to resist objective analysis and interpretation.

In the earlier pilot investigation, the Navy Personnel Research and Development Center (NPRDC), San Diego, selected a sample of 225 Evaluation Reports for senior enlisted personnel in pay grade E-7 taken from a pool of approximately 1,000 performance evaluation report forms for two occupational ratings---Aviation Electronics Technician (AT) and Boilerman (BT). All 225 Evaluation Reports were drawn from the top half of the marking scale on 19A-PERFORMANCE OF DUTY located in the upper right quadrant of Evaluation Report Form NAVPERS 1616/8. The 19A-PERFORMANCE OF DUTY category was used in preference to 19N-OVERALL EVALUATION because standard scores (T Scores) were available only for 19A. The use of standard scores rather than raw marks permitted a more refined selection to be made of the three criterion groups used in the study. Since raw marks on 19A correlate very highly with raw marks on 19N, it was felt that little was sacrificed by not using the overall evaluation and

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* This form subsequently has been replaced by another form that can be scanned by an optical character reader; however, the content of the two forms is essentially the same.

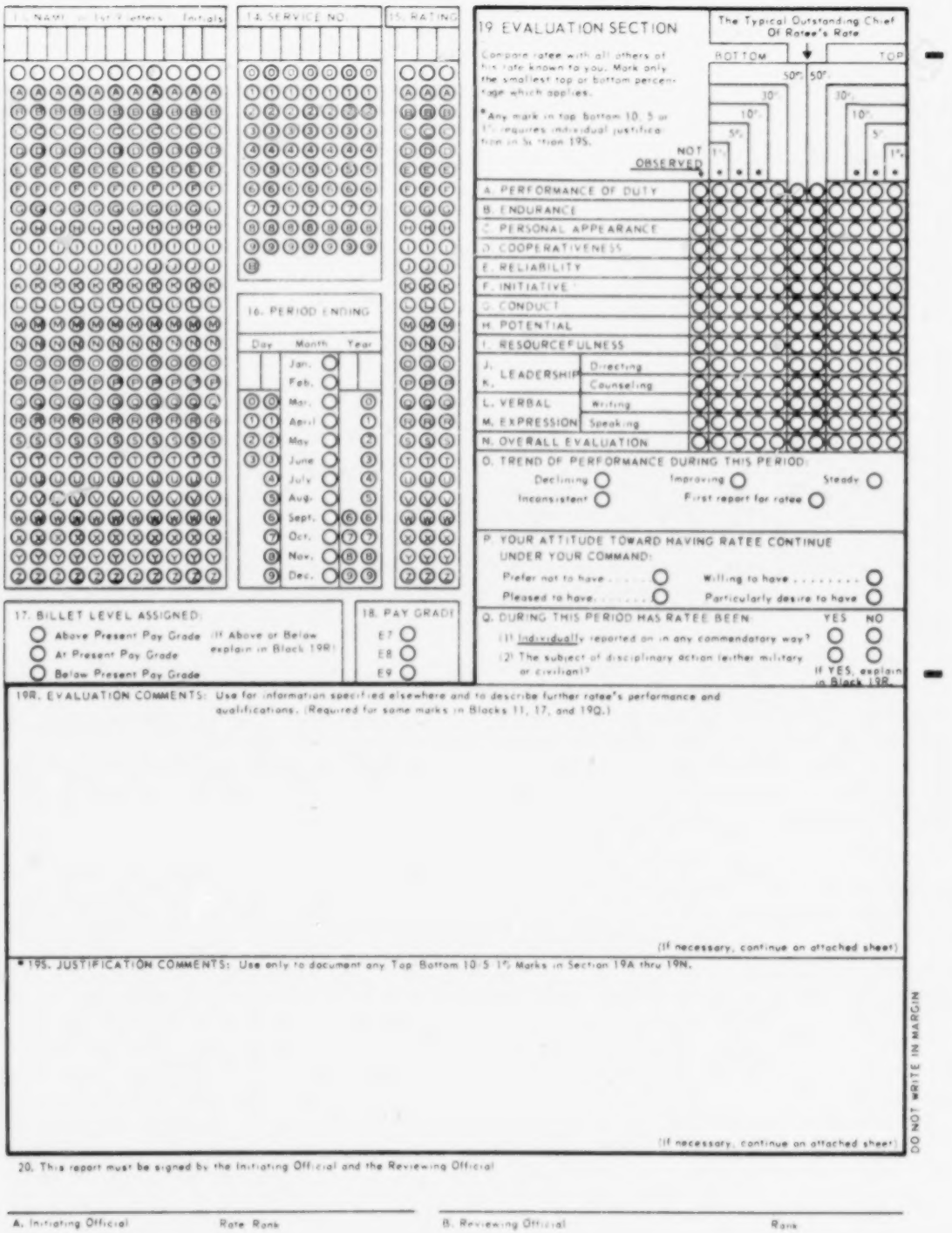

Figure 1. Evaluation Report Form NAVPERS 1616/8 (a 75 percent photo reduction of the original form)

that much was gained by using the purified T Scores on 19A. Only those Evaluation Reports from commands spreading their marks and submitting eight or more E-7 and E-8 reports were considered.

The pilot study sample of 225 Evaluation Reports was divided equally into three criterion groups---Upper, Middle, and Lower---corresponding to three continuous segments of the upper half of the marking scale on 19A-PERFORMANCE OF DUTY. Table 1 shows the range of raw marks on 19A for each of the three criterion groups in the pilot study sample as well as the range and mean of T Scores. These standardized scores have a mean of 50 and a standard deviation of 10. Standardization was accomplished by setting each unit command mean equal to 50 and standardizing the total of E-7 and E-8 marks for each unit command. No cases from the bottom half of the marking scale on 19A were included in this study since there is no difficulty in differentiating these cases from the better performing personnel.

Table 2 shows the distribution of the 225 pilot study Evaluation Reports among the three criterion groups for each of the two occupational ratings and for both occupations combined. After the pilot study sample had been selected and analyzed, it was discovered that one Evaluation Report for an Aviation Antisubmarine Warfare Operator (AW) had erroneously been coded as an Aviation Electronics Technician (AT). This case was removed from the analysis by specific occupation but was left in the analysis for the total pilot study sample.

In the second study, NPRDC also selected the sample of Evaluation Reports to be analyzed. The same general procedures described above for selecting the pilot study sample were followed also in selecting the cross validation sample and the generalization sample, except that the forms were selected from a

TABLE 1

RANGE OF RAW MARKS, RANGE OF T SCORES, AND
MEAN OF T SCORES ON 19A-PERFORMANCE OF DUTY
FOR THE THREE CRITERION GROUPS IN THE PILOT STUDY SAMPLE

Criterion Group	Range of Raw Marks	Range of T Scores	Mean of T Scores
Upper	In the top 5% column or the top 1% column	59.3 to 74.2	64.68
Middle	In the top 10% column only	48.0 to 54.1	51.79
Lower	In the top 50% column or the top 30% column	33.8 to 39.7	38.85

TABLE 2

DISTRIBUTION OF THE 225 PILOT STUDY EVALUATION REPORTS AMONG THE THREE CRITERION GROUPS FOR EACH OF THE TWO OCCUPATIONAL RATINGS AND FOR BOTH OCCUPATIONS COMBINED

Occupational Rating	Criterion Group			Total N
	Upper	Middle	Lower	
AT	49	39	56	144
AW*	0	1	0	1
BT	26	35	19	80
Total Sample	75	75	75	225

* This case erroneously was coded as an AT initially.

subsequent year's data pool. The cross validation sample consisted of 222 Evaluation Reports from the same two ratings that were used in the pilot study, that is, Aviation Electronics Technician (AT) and Boilerman (BT). In addition, a generalization sample consisting of 222 Evaluation Reports was selected by NPRDC from two different ratings in order to ascertain the generalizability of the content analytic methodology developed in the pilot study. The two ratings from which the generalization sample was drawn were Commissaryman (CS) and Radioman (RM).

The cross validation sample of 222 Evaluation Reports and the generalization sample of 222 Evaluation Reports were both divided equally into the same three criterion groups as the pilot study sample---Upper, Middle, and Lower. Table 3 shows the range of raw marks on 19A for each of the three criterion groups in the cross validation sample (AT's and BT's), the range of T Scores, and the mean of the T Scores for each criterion group. These same data for the generalization sample (CS's and RM's) are presented in Table 4. Tables 5 and 6 show the distribution of the 222 cross validation sample Evaluation Reports and the 222 generalization sample Evaluation Reports among the three criterion groups for each of the two occupational ratings represented in each sample and for both occupations combined. Actual criterion group membership for the cross validation sample and the generalization sample was known only to NPRDC until the content analysis of the narrative text had been completed. Consequently, the content analysis of these two samples was conducted in the blind without benefit of knowing to which criterion group each Evaluation Report belonged.

TABLE 3

RANGE OF RAW MARKS, RANGE OF T SCORES, AND
MEAN OF T SCORES ON 19A-PERFORMANCE OF DUTY
FOR THE THREE CRITERION GROUPS IN THE CROSS VALIDATION SAMPLE

Criterion Group	Range of Raw Marks	Range of T Scores	Mean of T Scores
Upper	In the top 5% column or the top 1% column	61.2 to 71.9	64.23
Middle	In the top 10% column only	48.2 to 55.9	52.54
Lower	In the top 50% column or the top 30% column	30.3 to 42.0	38.48

TABLE 4

RANGE OF RAW MARKS, RANGE OF T SCORES, AND
MEAN OF T SCORES ON 19A-PERFORMANCE OF DUTY
FOR THE THREE CRITERION GROUPS IN THE GENERALIZATION SAMPLE

Criterion Group	Range of Raw Marks	Range of T Scores	Mean of T Scores
Upper	In the top 5% column or the top 1% column	61.2 to 74.8	64.33
Middle	In the top 10% column only	48.2 to 56.2	52.50
Lower	In the top 50% column or the top 30% column	34.5 to 41.5	38.56

TABLE 5

DISTRIBUTION OF THE 222 CROSS VALIDATION SAMPLE
EVALUATION REPORTS AMONG THE THREE CRITERION GROUPS
FOR EACH OF THE TWO OCCUPATIONAL RATINGS
AND FOR BOTH OCCUPATIONS COMBINED

Occupational Rating	Criterion Group			Total N
	Upper	Middle	Lower	
AT	45	44	49	138
BT	29	30	25	84
Total Sample	74	74	74	222

TABLE 6

DISTRIBUTION OF THE 222 GENERALIZATION SAMPLE
EVALUATION REPORTS AMONG THE THREE CRITERION GROUPS
FOR EACH OF THE TWO OCCUPATIONAL RATINGS
AND FOR BOTH OCCUPATIONS COMBINED

Occupational Rating	Criterion Group			Total N
	Upper	Middle	Lower	
CS	19	16	25	60
RM	55	58	49	162
Total Sample	74	74	74	222

SECTION 3. CONTENT ANALYSIS METHODOLOGY

Conceptual Approach

In the pilot study, the narrative portions of the 75 Evaluation Reports for each of the three criterion groups were read in their entirety before formalizing the method of content analysis to be used. In this review the evaluation section and the justification section (19R and 19S) were considered separately. Borrowing from the field of information science, it seemed most appropriate to regard each narrative section as a short *document* that had been written by the ratee's senior officer in order to communicate to a selection board or to a detailer the potential that the ratee had for promotion and increased responsibility. Considered in this framework, the analysis task then becomes one of ascertaining what the *document* is about (content analysis), specification of the content by a set of descriptive labels (indexing), and organization of an indexing vocabulary (controlling the form and semantics of the descriptive labels by lexicon and/or rule).[3,4] In order for the content analysis to be valid, Fairthorne[5] cautions that two aspects must be taken into consideration: (a) what the *document* is about, and (b) the circumstances of the expected uses of the content analysis with respect to a particular task or problem. Fairthorne's advice was attended to in the design of the content analysis methodology in that the indexing vocabulary which was developed relates strongly to the ultimate use to which performance evaluations are put, that is, the selection for promotion of outstanding chief petty officers in the face of limited promotional opportunities.

The Indexing Vocabulary

In reading the narrative portions of the 75 Evaluation Reports for each of the three criterion groups in the pilot study sample, it became apparent that the attributes and characteristics being evaluated for a ratee related primarily to his potential as a manager and supervisor. Consequently, five references in the area of managerial behavior and practice[6,7,8,9,10] were consulted as an aid to the development of the indexing vocabulary used in this study. An initial vocabulary containing 41 descriptive labels was devised and used to test the adequacy and manageability of the indexing method on 20 Evaluation Reports not included in the pilot study sample but similar to them in content. As a result of this experience, the original set of 41 labels was condensed into a more generic set of 29 index terms. The indexing form, incorporating the final vocabulary that was used in both the pilot study and the second study, is shown in Figure 2.

The top line of the indexing form carries fields for an identifying number for each ratee, which criterion group he belongs to (used only in the pilot study since criterion data were withheld in the second study until the indexing had been completed), and whether the section being indexed is an evaluation section (19R) or a justification section (19S). The indexing form itself is divided into three major parts: MANAGEMENT FUNCTIONS, SKILLS AND ABILITIES, and PRODUCTIVITY AND ACHIEVEMENT. Under each of these headings there are more detailed terms, providing the indexer with a 3-level hierarchy of descriptive labels from which to choose.

ID No._____ Criterion Group_____ Section _____

Index Term		Freq.
MANAGEMENT FUNCTIONS		
CONTROLLING		
LEADERSHIP AND DIRECTING		
ORGANIZATION		
PLANNING		
REPRESENTATION		
STAFFING		
USE OF COMMUNICATION		
SKILLS AND ABILITIES		
COMMUNICATION		
CONDUCT, INTEGRITY, AND PRIDE		
COOPERATION		
ENDURANCE		
FLEXIBILITY		
GROOMING AND ATTIRE		
INITIATIVE		
INTELLECTUAL FUNCTIONING		
PROFESSIONALISM		
RELIABILITY AND DEPENDABILITY		
RESOURCEFULNESS		
RESPONSIVENESS		
TECHNICAL SKILLS		
PRODUCTIVITY AND ACHIEVEMENT		
AWARDS AND PUNISHMENT		
DRIVE		
SERVICE MOTIVATION		
POTENTIAL		
REPUTE		
ASSET TO THE NAVY		

FREQUENCY COUNTS: 5 _____, 4 _____, 3 _____, 2 _____, 1 _____

TOTAL NUMBER OF WORDS _____ TOTAL NUMBER OF INDEX TERMS_____

Figure 2. Indexing Form Used in Performing the Content Analysis

The first section of the indexing form includes seven specific MANAGEMENT FUNCTIONS that many authorities on management practice agree are the characteristic *duties* of all managers.[6,7,8,9,10] Although some authorities believe that there are more, less, or different functions performed by managers, these seven functions were selected because they are representative of the duties that chief petty officers actually perform.

The second section of the indexing form contains index terms for 13 specific SKILLS AND ABILITIES considered to be important by Navy supervisory personnel in performing effectively as a chief petty officer. While some authorities on management practice consider making a judgment about whether or not an individual possesses a skill, quality, or ability to be a subjective process, Navy evaluators do repeatedly call out these specific qualities in their narrative evaluations because many of these qualities are dimensions on which they rate the ratee in Section 19 of the Evaluation Report. The first section of the indexing form---MANAGEMENT FUNCTIONS---deals with how a ratee performs his managerial functions and is result oriented, while the second section---SKILLS AND ABILITIES---contains index terms that relate to an individual's characteristics and qualities which, if used, may help him achieve good results.

The third section of the indexing form---PRODUCTIVITY AND ACHIEVEMENT---is the most result-oriented section of the indexing hierarchy. Here are included the measures of overall performance. DRIVE and SERVICE MOTIVATION (a specific type of drive) are included in this section since drive is considered to be one of the more important variables leading to success. POTENTIAL also is included here since potential is a measure of future performance. AWARDS AND PUNISHMENT, REPUTE, and ASSET TO THE NAVY represent acknowledgments of an individual's performance, either positive or negative acknowledgment.

Each sentence of narrative text in the pilot study sample and the cross validation and generalization samples was read carefully and, where appropriate, divided into segments corresponding to the assignment of specific index terms. However, it is not enough to simply label a narrative statement with the most appropriate index term since the statement may have been a highly positive, quite positive, neutral, quite negative, or highly negative one. For example, in order to differentiate between the ratee who plans superbly and the ratee who plans inadequately, a weighting scale was devised to be applied to each index term that is used (see Table 7). The weighting scale contains five numerical values ranging from 5 (the positive end of the scale) to 1 (the negative end of the scale). Under each numerical value in Table 7 there are listed samples of adjectives or adverbs that may be used by the rater to describe a ratee's performance. These lists of words provide clues to the indexer as to which numerical value to assign to an index term. As a simple example, if the rater commented that the ratee was highly cooperative, this statement would be indexed as COOPERATION and assigned a weight of 4 since *highly* is listed as an example under numeral 4 in Table 7.

The weighting scale developed for this content analysis research bears a marked resemblance to the quality rating scale developed by Harrington in rating narrative statements contained in letters of recommendation regarding candidates for secondary level teaching positions.[11] Harrington's quality rating scale was based upon the proposition that the favorableness of the modifying

TABLE 7
WEIGHTING SCALE

5 excellent	4 good	3 average	2 poor	1 poorest
superlative	comparative		comparative	superlative
best	better than most	average	not as good as most	worst

EXAMPLES

above reproach	above average	adequate	declining quality	bottom
beyond reproach	better	aptly	deficiency	least
boundless	comendable	capable	detrimental	lowest
exceptional	complete	competent	fair	
extra-ordinary	deep	generally	in need of	
extremely	definitely	moderate	insufficient	
finest	easily	satisfac-tory	lack of	
flawless	effective	sufficient-ly	lower than average	
greatest	efficient	usually	lowering of	
highest	eloquent		negatively	
ideal	eminent		spotty	
little to be desired	exceeds		unfortunate	
limitless	excels		unwisely	
maximum	exemplary		weak in	
most	expeditious		with the exception of	
never	experienced			
outstanding	expertise			
paramount	extensive			
perfect	favorable			
profound	great			
sterling	high/highly			
superb	immaculate			
superior	immensely			
surpassed by none	impeccable			
top/topnotch	impressive			
unimpeachable	innate			
unique	inspires			
unlimited	instills			
unmatched	invaluable			
utmost	keen			
without equal	laudable			
without exception	leading			
100%	marked			
	meticulously			
	model			
	much			
	noteworthy			
	particularly			
	rapidly			

4-good (Cont.)

rare
remarkable
significantly
skillful
smoothly
solid
strongly
surpassed
thorough
tremendous
truly
unstinting
valuable
vast
very

NOTE: AWARDS AND PUNISHMENT is assigned a weight of either 5 or 1.

terms used by the writer of a recommendation is an index of his enthusiasm in recommending the candidate and, therefore, of the quality of the recommendation. The rationale for the weighting scale used in this study was similar to Harrington's proposition. A long list of adjectives and adverbs found to occur in a large corpus of Evaluation Reports were classified into five degrees of favorableness/unfavorableness in modifying terms. There is a great deal of overlap between the adjectives and adverbs contained in Harrington's quality rating scale and those contained in the weighting scale used in this research shown in Table 7. There also is a high degree of correspondence in the relative positioning of the adjectives and adverbs along the two scales. The existence of the fairly ancient Harrington monograph was not discovered until after the weighting scale used in this research had been devised and the research being reported had been completed. It is interesting that two research efforts conducted 30 years apart each independently developed a similar conceptual framework for performing a content analysis of narrative recommendations or evaluations. Harrington's procedure was identical to the one followed in the research being reported here. The narrative text of each Evaluation Report was read, segmented into distinct statements, and each statement was then assigned one or more index terms from the set of 29 possible choices shown in Figure 2. Each term selected was also assigned a numerical weight from 1 to 5 depending upon the nature of the adjectives or adverbs used as modifiers in the statement. The following examples will make more explicit the indexing procedure that was followed.

Example 1. "BTC has an excellent working and practical knowledge of the PMS System/but has a tendency to be lax in the administrative phase of the system."

This sentence was segmented into two parts. The first part was indexed as TECHNICAL SKILLS and assigned a weight of 5. The second part was indexed as MANAGEMENT FUNCTIONS and assigned a weight of 2.

Example 2. "Chief XX was relieved of his duties as the ship's Oil King after serving in the capacity for approximately two months./ He was removed from this billet because of his lack of professional knowledge/and technical know-how in the art of refueling."

This portion of narrative text was divided into three segments for indexing purposes. Segment 1 was indexed as AWARDS AND PUNISHMENT and assigned a weight of 1. Segment 2 was indexed as PROFESSIONALISM and assigned a weight of 2. Segment 3 was indexed as TECHNICAL SKILLS and assigned a weight of 2.

Example 3. "He is able to direct the efforts of Line Personnel in an efficient and effective manner;/this is reflected in the ratee by a multiple of exceptional qualities."

This sentence was segmented into two parts. The first part was indexed as LEADERSHIP AND DIRECTING and assigned a weight of 4. The second part was indexed as SKILLS AND ABILITIES and assigned a weight of 5.

Example 4. "His natural abilities/and responsible approach to recruiting/have enabled the ratee to outperform his contemporaries."

This sentence was segmented into three parts. The first part was indexed as SKILLS AND ABILITIES and assigned a weight of 3. The second part was indexed as RELIABILITY AND DEPENDABILITY and assigned a weight of 3. The third part was indexed as PRODUCTIVITY AND ACHIEVEMENT and assigned a weight of 4.

Figure 3 shows an example of the complete narrative text written in an evaluation section. The index terms that were selected by the indexer have been recorded above each segment of text and the indexing weights that were assigned appear directly after each term. Factual statements requiring no indexing were enclosed in brackets. The number of words in the narrative text were counted and recorded at the bottom of the text by the indexer.

After all of the narrative text for either an evaluation section or a justification section of an Evaluation Report was indexed, the weights corresponding to each term were written onto the indexing form to the right of the appropriate index term (see Figure 4). Thus there may have been two instances of mention of the ratee's INTELLECTUAL FUNCTIONING, the first mention given a weight of 3 and the second a weight of 4. To the right of INTELLECTUAL FUNCTIONING on the indexing form for this ratee would be written the following string of weights: 3,4. Then to the far right on the indexing form under the column headed "Freq." would be written "2", indicating that this index term had been used two times in indexing that particular section of narrative text.

At the bottom of the indexing form there is a line labeled FREQUENCY COUNTS. After all of the weights assigned to the index terms selected for a section of narrative text (19R or 19S) had been entered on the indexing form, all of the 5 weights were counted and the sum was entered to the right of 5 on the FREQUENCY COUNTS line. The same procedure was followed for entering the frequency count of 4 weights, 3 weights, 2 weights, and 1 weights. The final step in completing the indexing form was to transfer the total number of words written at the bottom of the narrative text and to count the total number of index terms selected from the set of 29 possibilities.

In order to increase the likelihood of consistent usage of the indexing vocabulary, a definition was written for each of the 29 index terms. Koontz and O'Donnell's *Principles of Management*[7] was relied upon heavily in defining the management-oriented terms listed in Figure 2. Also contributing to the formulation of the definitions for the 29 index terms was the way that Navy evaluators actually referred to these concepts in narrative text. These definitions were consulted frequently during the indexing process. Indexing of the pilot study sample and the cross validation and generalization samples was performed by one experienced indexer who also had conceptualized the content of the indexing vocabulary and had prepared the definitions of the 29 terms. As part of the concomitant study to ascertain the reliability of this content analysis methodology, a training manual was developed for use by the four reliability indexers participating in the study. This training manual is included in its entirety in Appendix A and incorporates an alphabetical dictionary of the 29 index terms. The dictionary definition for each term is followed by extensive examples of correct indexing usage of the term and the proper assignment of weights.

As Baxendale has so cogently articulated, "The core problem of content analysis concerns language in both its connotative and denotative aspects--a Pandora's box of semantic and psychological complexities and unknowns."[12] Acknowledging these obstacles to a perfect representation of the content of a particular segment of narrative text, numerous examples of indexing usage have been included in the alphabetical dictionary of index terms, primarily as a means of illustrating the level of objectivity and consistency that can be achieved in this type of content analysis, but also to demonstrate the intractable problems that still reside in any effort to organize and objectify the domain of linguistic discourse.

INT FUN 3 MAN FUN 4 PROD + ACH 5
Ratee is an intelligent and proficient Petty Officer, who performs his duties
PLAN 3 ORG 3 ORG 3 LDR 3
in an outstanding manner. His ability to plan, organize, coordinate and super-
PROD + ACH 3
vise have been ably demonstrated by his performance as Recruit Company Command-
REL + DEP 3 REL + DEP 3
er. Ratee is dependable, trustworthy, and exhibits mature judgment in dispos-
INT FUN 4
ing of problems which occur within his company. Ratee's military appearance
GR + AT 3 TRID 4 COND 3
and neatness of person and dress denote great pride. He is cheerful, highly
DRIV 4 COOP 5
motivated, and gets along exceptionally well with others. Ratee's command of
COMM 4
the English language, both orally and written is above average. Ratee is high-
POT 4
ly recommended for E-8. [Ratee has been in Water Survival and Hygiene Division
only for a short period of time.] He has shown a great POT 4 potential towards being
a swimming instructor. Ratee is practicing on his own time to qualify for DRIV 3
Senior Life Saver.

T = 135

Figure 3. Example of the Narrative Text for An Evaluation Section Showing the Indexing Decisions That Were Made. Factual Statements Requiring No Indexing Are Enclosed in Brackets. T = Total Number of Words in the Narrative Text.

ID No. 1000 Criterion Group Unknown at time of indexing Section Eval. (19R)

Index Term		Freq.
MANAGEMENT FUNCTIONS	4	1
CONTROLLING		
LEADERSHIP AND DIRECTING	3	1
ORGANIZATION	3, 3	2
PLANNING	3	1
REPRESENTATION		
STAFFING		
USE OF COMMUNICATION		
SKILLS AND ABILITIES		
COMMUNICATION	4	1
CONDUCT, INTEGRITY, AND PRIDE	4, 3	2
COOPERATION	5	1
ENDURANCE		
FLEXIBILITY		
GROOMING AND ATTIRE	3	1
INITIATIVE		
INTELLECTUAL FUNCTIONING	3, 4	2
PROFESSIONALISM		
RELIABILITY AND DEPENDABILITY	3, 3	2
RESOURCEFULNESS		
RESPONSIVENESS		
TECHNICAL SKILLS		
PRODUCTIVITY AND ACHIEVEMENT	5, 3	2
AWARDS AND PUNISHMENT		
DRIVE	4, 3	2
SERVICE MOTIVATION		
POTENTIAL	4, 4	2
REPUTE		
ASSET TO THE NAVY		

FREQUENCY COUNTS: 5 2, 4 7, 3 11, 2 _____, 1 _____

TOTAL NUMBER OF WORDS 135 TOTAL NUMBER OF INDEX TERMS 13

Figure 4. The Indexing Form As It Was Filled Out to Record the Indexing Decisions Made in the Example of Narrative Text Shown in Figure 3

SECTION 4. STATISTICAL ANALYSIS AND RESULTS

A set of 67 quantitative variables was derived from the indexing form used in the content analysis (see Table 8). The first 29 variables reflect the simple frequency with which each index term was used to index a particular section of narrative text. Variable 30 is the sum of these 29 frequencies. Variables 31 through 59 represent the *weighted* frequency of each index term used to index a particular section of narrative text. For example, suppose that the index term CONTROLLING was used twice. The first time that it was used it was assigned a weight of 4; the second time that it was used it was assigned a weight of 3. The weighted frequency then for CONTROLLING would be $4\times1 + 3\times1 = 7$. The simple frequency for this same example would be $1 + 1 = 2$. Variable 60 is similar to Variable 30 in that it is the sum of the 29 weighted frequencies.

Variables 61 through 65 represent the frequency counts over the entire indexing form for all 5 weights, 4 weights, 3 weights, 2 weights, and 1 weights. Variable 66 is the total number of words in the section of narrative text that was indexed. Variable 67 is the total number of index terms of the 29 available that were used to index the section of narrative text.

Profiles or vectors of these 67 values then were prepared for all of the Evaluation Reports contained in each sample. Separate profiles were compiled for the evaluation and justification sections of each Evaluation Report. If certain index terms were not used at all in indexing the evaluation section narrative or the justification section narrative, they were given a value of zero in the profile. This practice raised an important theoretical issue. Is it more damaging not to say anything about a ratee's performance in a particular area than to damn him with qualified praise? A statement such as the following was assigned a weight of 2: "With more time and conscientious effort, he should realize a greater potential." This evaluation of the ratee's potential seems more negative than not to have commented at all about his potential.

As a result of these considerations, the weighting scale that had been used in the indexing of Variables 31 through 59 was transformed in order to place no comment between positive comments and negative comments. Table 9 shows the conversion that was used. A constant of 10 was added to the weighted frequency of Variables 31 through 59 in order to avoid the incidence of any negative input values in the subsequent statistical computations.

All profiles were transformed to the new weighting scale and entered onto IBM coding forms in preparation for keypunching. The criterion data and occupational rating codes were known for the pilot study sample and were included on the coding forms. However, all of the coding forms for the cross validation sample and the generalization sample were sent to the Navy Personnel Research and Development Center in San Diego where the criterion data and occupational rating codes were added to the coding forms and then returned to R-K Research and System Design for keypunching at UCLA. Card decks for each of the three samples were assembled in six parts: (1) Upper Criterion Group - Evaluation Section, (2) Middle Criterion Group - Evaluation Section, (3) Lower Criterion Group - Evaluation Section, (4) Upper Criterion Group - Justification Section, (5) Middle Criterion Group - Justification Section, and (6)

TABLE 8

DEFINITION OF THE 67 QUANTITATIVE VARIABLES
DERIVED FROM THE INDEXING FORM

Number of Variable	Description of Variable
1	Frequency of Mention of MANAGEMENT FUNCTIONS
2	Frequency of Mention of CONTROLLING
3	Frequency of Mention of LEADERSHIP AND DIRECTING
4	Frequency of Mention of ORGANIZATION
5	Frequency of Mention of PLANNING
6	Frequency of Mention of REPRESENTATION
7	Frequency of Mention of STAFFING
8	Frequency of Mention of USE OF COMMUNICATION
9	Frequency of Mention of SKILLS AND ABILITIES
10	Frequency of Mention of COMMUNICATION
11	Frequency of Mention of CONDUCT, INTEGRITY, AND PRIDE
12	Frequency of Mention of COOPERATION
13	Frequency of Mention of ENDURANCE
14	Frequency of Mention of FLEXIBILITY
15	Frequency of Mention of GROOMING AND ATTIRE
16	Frequency of Mention of INITIATIVE
17	Frequency of Mention of INTELLECTUAL FUNCTIONING
18	Frequency of Mention of PROFESSIONALISM
19	Frequency of Mention of RELIABILITY AND DEPENDABILITY
20	Frequency of Mention of RESOURCEFULNESS
21	Frequency of Mention of RESPONSIVENESS
22	Frequency of Mention of TECHNICAL SKILLS
23	Frequency of Mention of PRODUCTIVITY AND ACHIEVEMENT
24	Frequency of Mention of AWARDS AND PUNISHMENT
25	Frequency of Mention of DRIVE
26	Frequency of Mention of SERVICE MOTIVATION
27	Frequency of Mention of POTENTIAL
28	Frequency of Mention of REPUTE
29	Frequency of Mention of ASSET TO THE NAVY
30	Sum of Variables 1 through 29
31	Weighted Frequency of Mention of MANAGEMENT FUNCTIONS
32	Weighted Frequency of Mention of CONTROLLING
33	Weighted Frequency of Mention of LEADERSHIP AND DIRECTING
34	Weighted Frequency of Mention of ORGANIZATION
35	Weighted Frequency of Mention of PLANNING
36	Weighted Frequency of Mention of REPRESENTATION

(Continued)

TABLE 8 (CONT.)

DEFINITION OF THE 67 QUANTITATIVE VARIABLES
DERIVED FROM THE INDEXING FORM

Number of Variable	Description of Variable
37	Weighted Frequency of Mention of STAFFING
38	Weighted Frequency of Mention of USE OF COMMUNICATION
39	Weighted Frequency of Mention of SKILLS AND ABILITIES
40	Weighted Frequency of Mention of COMMUNICATION
41	Weighted Frequency of Mention of CONDUCT, INTEGRITY, AND PRIDE
42	Weighted Frequency of Mention of COOPERATION
43	Weighted Frequency of Mention of ENDURANCE
44	Weighted Frequency of Mention of FLEXIBILITY
45	Weighted Frequency of Mention of GROOMING AND ATTIRE
46	Weighted Frequency of Mention of INITIATIVE
47	Weighted Frequency of Mention of INTELLECTUAL FUNCTIONING
48	Weighted Frequency of Mention of PROFESSIONALISM
49	Weighted Frequency of Mention of RELIABILITY AND DEPENDABILITY
50	Weighted Frequency of Mention of RESOURCEFULNESS
51	Weighted Frequency of Mention of RESPONSIVENESS
52	Weighted Frequency of Mention of TECHNICAL SKILLS
53	Weighted Frequency of Mention of PRODUCTIVITY AND ACHIEVEMENT
54	Weighted Frequency of Mention of AWARDS AND PUNISHMENT
55	Weighted Frequency of Mention of DRIVE
56	Weighted Frequency of Mention of SERVICE MOTIVATION
57	Weighted Frequency of Mention of POTENTIAL
58	Weighted Frequency of Mention of REPUTE
59	Weighted Frequency of Mention of ASSET TO THE NAVY
60	Sum of Variables 31 through 59
61	Total Number of 5 Weights
62	Total Number of 4 Weights
63	Total Number of 3 Weights
64	Total Number of 2 Weights
65	Total Number of 1 Weights
66	Total Number of Words in Narrative Text
67	Total Number of Index Terms Used

TABLE 9

TRANSFORMATION OF WEIGHTING SCALE

Original Weights	Transformed Weights
5 (Excellent)	3 (Excellent)
4 (Good)	2 (Good)
3 (Average)	1 (Average)
	0 (No Comment)
2 (Poor)	-1 (Poor)
1 (Poorest)	-2 (Poorest)
0 (No Comment)	

Lower Criterion Group - Justification Section. Duplicate card decks were sent to NPRDC.

In order to better visualize the nature of the distributions of the 67 variables for each of the three research samples, computer runs were made at the UCLA Health Sciences Computing Facility* using Program BMD01D of the library of Biomedical Computer Programs.[13] Program BMD01D - Simple Data Description computes arithmetic means, standard deviations, standard errors of means, maximum values, minimum values, ranges, and sample sizes for a set of input variables. The output from these computer runs for the cross validation sample and the generalization sample is presented in Appendix B. The output from the computer run for the pilot study sample was included in an earlier technical report,[14] and since it is rather voluminous, it is not repeated in this report.

Some interesting comparisons can be made from the descriptive statistics compiled in Appendix B. Tables 10 and 11 present the data on Variable 66, total number of words contained in the narrative text of the evaluation and justification sections of the Evaluation Report, Table 10 for the cross validation sample and Table 11 for the generalization sample. The results for the evaluation sections of Tables 10 and 11 are different from those found in the pilot study[15] where the nearer that the criterion group was to the top of the distribution of T Scores on 19A-PERFORMANCE OF DUTY, the longer the narrative text written to evaluate the performance of the ratee. In the pilot study sample approximately 89 words were written on the average to evaluate ratees in the Upper criterion group. This average dropped to approximately 76 words in the Middle criterion group and to approximately 67 words in the Lower criterion group. This decreasing trend is not apparent in Tables 10 and 11 for the evaluation section. Instead, in the cross validation sample the trend is just the opposite, with the average length of the narrative text of the evaluation section becoming longer as the criterion group moves farther away from

* Computing assistance was obtained from the Health Sciences Computing Facility, UCLA, sponsored by NIH Special Research Resources Grant RR-3.

TABLE 10

DESCRIPTIVE STATISTICS ON VARIABLE 66:
TOTAL NUMBER OF WORDS IN NARRATIVE TEXT
FOR THE CROSS VALIDATION SAMPLE

Evaluation Section	Mean	S.D.	Max.	Min.	Range
Upper	78.3376	49.0724	212	0	212
Middle	86.5808	42.8689	214	0	214
Lower	87.1889	46.2204	287	0	287
Justification Section	**Mean**	**S.D.**	**Max.**	**Min.**	**Range**
Upper	201.4052	146.3721	896	35	861
Middle	146.5944	124.8155	820	17	803
Lower	17.6754	27.2311	112	0	112

TABLE 11

DESCRIPTIVE STATISTICS ON VARIABLE 66:
TOTAL NUMBER OF WORDS IN NARRATIVE TEXT
FOR THE GENERALIZATION SAMPLE

Evaluation Section	Mean	S.D.	Max.	Min.	Range
Upper	98.1754	83.3072	530	0	530
Middle	84.5132	53.0552	293	0	293
Lower	100.2835	54.5660	353	0	353
Justification Section	**Mean**	**S.D.**	**Max.**	**Min.**	**Range**
Upper	228.2968	155.7997	881	17	864
Middle	133.0268	96.9929	442	0	442
Lower	27.4051	40.0231	172	0	172

the top of the distribution of T Scores on 19A. In the generalization sample the average length of the narrative text of the evaluation section drops from the Upper criterion group to the Middle criterion group but then rises even higher for the Lower criterion group than for the Upper criterion group. These unexpected findings for the cross validation and generalization samples can be explained by the presence of a few atypically long evaluation sections in the Middle and Lower criterion groups that markedly influenced the mean length for these two criterion groups. This explanation is further corroborated by examining the maximum total number of words contained in the narrative text of the evaluation section for the Lower criterion group as shown in Tables 10 and 11. A minimum of zero words resulted from evaluation sections not being written at all for a handful of cases in the various criterion groups.

In the pilot study the trend of longer narrative text for criterion groups near the top of the distribution of T Scores on 19A-PERFORMANCE OF DUTY prevailed also for the justification section, but the effect was even more pronounced than for the evaluation section. This same outcome resulted for the justification section in the cross validation and generalization samples, and can be explained partly by the requirement to write an individual justification in Section 19S for any mark given in the top 10, 5, or 1% columns of Section 19. When a justification section was written, on the average it was longer than the evaluation section in the Upper and Middle criterion groups of all three samples.

Tables 12 and 13 also extract data from Appendix B and present descriptive statistics for all three criterion groups in the cross validation and generalization samples on Variable 67, total number of index terms used of the 29 available to index the evaluation and justification sections of the Evaluation Report. The results shown in Tables 12 and 13 are correlated to those presented in Tables 10 and 11 in that the number of index terms used is a function of length of the narrative text. As the evaluator uses more words to describe the ratee, he is more likely to comment on a wider variety of specific areas of the ratee's performance. This tendency is mirrored in the number of different index terms selected by the indexer to encompass the narrative content. It is interesting that on the average in the evaluation section of either the cross validation or the generalization sample only a half dozen substantive areas of the ratee's performance were described of the 29 possibilities. This was also the finding in the pilot study.[16] Even in the justification section where longer expositions were written, on the average only 11 or 12 of the 29 content areas were mentioned in the Upper criterion group (nine areas in the pilot study Upper criterion group[16]). This finding, consistent across all three samples, suggests that the evaluators may be victims of habitual ways of formulating and phrasing the narrative sections of the Evaluation Report. Of the richness of information that could be used to describe the performance of ratees in the Upper criterion group, on the average only a partial representation is utilized. All of the 29 index terms were used at one time or another to index the evaluation sections or the justification sections of the three criterion groups in all three samples. Therefore, one can conclude that although only a partial representation of the 29 substantive areas may be utilized to describe a particular ratee, over a sample as large as any one criterion group (N=74 or 75), all 29 areas of performance do get mentioned at one time or another.

TABLE 12

DESCRIPTIVE STATISTICS ON VARIABLE 67:
TOTAL NUMBER OF INDEX TERMS USED
FOR THE CROSS VALIDATION SAMPLE

Evaluation Section	Mean	S.D.	Max.	Min.	Range
Upper	5.6081	3.3508	14	0	14
Middle	7.1621	3.2011	15	0	15
Lower	6.5135	2.9759	16	0	16
Justification Section	**Mean**	**S.D.**	**Max.**	**Min.**	**Range**
Upper	11.6081	4.8224	27	4	23
Middle	9.1621	4.3132	19	1	18
Lower	1.6081	2.4372	9	0	9

TABLE 13

DESCRIPTIVE STATISTICS ON VARIABLE 67:
TOTAL NUMBER OF INDEX TERMS USED
FOR THE GENERALIZATION SAMPLE

Evaluation Section	Mean	S.D.	Max.	Min.	Range
Upper	6.3378	4.7637	22	0	22
Middle	5.8648	3.3365	14	0	14
Lower	6.3648	2.8020	14	0	14
Justification Section	**Mean**	**S.D.**	**Max.**	**Min.**	**Range**
Upper	12.4730	4.6852	22	1	21
Middle	8.4730	4.2819	18	0	18
Lower	1.8648	2.5660	10	0	10

From the duplicate deck of punched cards for the cross validation and the generalization samples that was sent to NPRDC, correlation matrices were computed at the computing facility of the Naval Electronics Laboratory Center in San Diego. Correlations among all 67 variables for the evaluation section and for the justification section were computed for each sample as well as the matrix correlating the evaluation section with the justification section on all 67 variables. These results are displayed in Appendix C. The reader is referred to Table 8 for a definition of each of the 67 variables.

The overall picture that emerges from a scrutiny of these six matrices is that there are very few high correlations except for the correlations between Variables 1 through 30 and Variables 31 through 60 which are shown in italic type. These two sets of variables are the same except for the method of weighting that was used. The other variables that showed a consistently high correlation in the evaluation section and also in the justification section for both samples were Variable 30 (Sum of Variables 1 through 29) and Variable 60 (Sum of Variables 31 through 59) with Variable 61 (Total Number of 5 [New 3] Weights), Variable 62 (Total Number of 4 [New 2] Weights), Variable 63 (Total Number of 3 [New 1] Weights), Variable 66 (Total Number of Words in the Narrative Text), and Variable 67 (Total Number of Index Terms Used). Variable 67 (Total Number of Index Terms Used) is a focal variable, correlating highly with Variable 30 (Sum of Variables 1 through 29), Variable 60 (Sum of Variables 31 through 59), Variable 61 (Total Number of 5 [New 3] Weights), Variable 62 (Total Number of 4 [New 2] Weights), Variable 63 (Total Number of 3 [New 1] Weights), and Variable 66 (Total Number of Words in the Narrative Text). Correlations among the variables having to do with the 29 index terms per se were notably low, indicating that these 29 dimensions are relatively orthogonal and represent independent aspects of managerial performance. In the correlation matrix for the evaluation section versus the justification section, no high correlations were evident in either the cross validation sample or the generalization sample, demonstrating that these two narrative sections of Evaluation Report Form NAVPERS 1616/8 are quite independent and should be treated separately. An early decision in this research project was to treat these two narrative sections separately; in retrospect this determination appears to have been a wise decision.

Since the system that was used for weighting Variables 31 through 59 has been highlighted by the correlational analysis as an important aspect of the content analysis methodology, it is of interest to see the distribution of index weights used for each of the three criterion groups in the cross validation and generalization samples. These results are presented in Tables 14 through 17. Tables 14 and 15 show the distribution for the cross validation sample, first for the evaluation section and then for the justification section. Comparable distributions for the generalization sample are shown in Tables 16 and 17. A chi square test of common distribution was calculated for all pairwise criterion group comparisons in Tables 14 through 17 in order to test the hypothesis that the distributions of index weights used for each pair of groups were drawn from the same population. This hypothesis was rejected beyond the .001 level of probability for five of the six comparisons made for the cross validation sample (see Table 18). For the comparison of the Upper versus Middle criterion groups on the justification section, the hypothesis was rejected beyond the .01 level of probability. These results replicate the

TABLE 14

DISTRIBUTION OF TOTAL NUMBER OF 5 WEIGHTS THROUGH 1 WEIGHTS
USED IN INDEXING THE EVALUATION SECTION (19R)
OF THE CROSS VALIDATION SAMPLE FOR ALL THREE CRITERION GROUPS

Weights	Criterion Group		
	Upper	Middle	Lower
5 (New 3) Excellent	203	157	84
4 (New 2) Good	270	324	314
3 (New 1) Average	144	261	234
2 (New -1) Poor	0	14	71
1 (New -2) Poorest	0	0	1

TABLE 15

DISTRIBUTION OF TOTAL NUMBER OF 5 WEIGHTS THROUGH 1 WEIGHTS
USED IN INDEXING THE JUSTIFICATION SECTION (19S)
OF THE CROSS VALIDATION SAMPLE FOR ALL THREE CRITERION GROUPS

Weights	Criterion Group		
	Upper	Middle	Lower
5 (New 3) Excellent	508	265	48
4 (New 2) Good	738	486	71
3 (New 1) Average	528	408	38
2 (New -1) Poor	0	2	2
1 (New -2) Poorest	0	0	1

TABLE 16

DISTRIBUTION OF TOTAL NUMBER OF 5 WEIGHTS THROUGH 1 WEIGHTS USED IN INDEXING THE EVALUATION SECTION (19R) OF THE GENERALIZATION SAMPLE FOR ALL THREE CRITERION GROUPS

Weights	Criterion Group		
	Upper	Middle	Lower
5 (New 3) Excellent	220	137	115
4 (New 2) Good	327	287	317
3 (New 1) Average	199	205	211
2 (New -1) Poor	1	17	54
1 (New -2) Poorest	0	0	1

TABLE 17

DISTRIBUTION OF TOTAL NUMBER OF 5 WEIGHTS THROUGH 1 WEIGHTS USED IN INDEXING THE JUSTIFICATION SECTION (19S) OF THE GENERALIZATION SAMPLE FOR ALL THREE CRITERION GROUPS

Weights	Criterion Group		
	Upper	Middle	Lower
5 (New 3) Excellent	451	231	46
4 (New 2) Good	783	444	105
3 (New 1) Average	579	385	51
2 (New -1) Poor	5	3	3
1 (New -2) Poorest	0	0	0

TABLE 18

RESULTS OF THE CHI SQUARE TESTS OF COMMON DISTRIBUTION OF INDEX WEIGHTS USED FOR EACH PAIR OF CRITERION GROUPS IN THE CROSS VALIDATION SAMPLE

Criterion Group Comparison	Value of Chi Square	Degrees of Freedom	Probability Level
Evaluation Section			
Upper vs. Middle	44.9757	4	$P < .001$
Middle vs. Lower	61.1906	4	$P < .001$
Upper vs. Lower	140.9668	4	$P < .001$
Justification Section			
Upper vs. Middle	18.4300	4	$.001 < P < .01$
Middle vs. Lower	21.3217	4	$P < .001$
Upper vs. Lower	35.4408	4	$P < .001$

TABLE 19

RESULTS OF THE CHI SQUARE TESTS OF COMMON DISTRIBUTION OF INDEX WEIGHTS USED FOR EACH PAIR OF CRITERION GROUPS IN THE GENERALIZATION SAMPLE

Criterion Group Comparison	Value of Chi Square	Degrees of Freedom	Probability Level
Evaluation Section			
Upper vs. Middle	29.0438	4	$P < .001$
Middle vs. Lower	21.7997	4	$P < .001$
Upper vs. Lower	83.9246	4	$P < .001$
Justification Section			
Upper vs. Middle	6.7782	4	$P > .05$
Middle vs. Lower	15.0797	4	$.001 < P < .01$
Upper vs. Lower	12.6617	4	$.01 < P < .05$

Note: $\chi^2_{.001}$ with 4 degrees of freedom = 18.465.

findings in the earlier pilot study.[17] For the generalization sample the hypothesis was rejected beyond the .001 level of probability for all three comparisons made for the evaluation section (see Table 19). However, in the justification section the difference between the distributions of weights for the Upper versus Middle criterion groups was not statistically significant. The other two comparisons (i.e., Middle vs. Lower and Upper vs. Lower) were statistically significant. The conclusion that can be drawn from Tables 14 through 19 is that the higher the criterion group, the more excellent and good attributes that are mentioned by the evaluator. The lower the criterion group, the more average, poor, and poorest incidents of behavior that are cited by the evaluator.

In the pilot study the Mann-Whitney U test was used to test the null hypothesis that there were no differences between each pair of criterion groups on each of the 67 quantitative variables derived from the indexing form. The nonparametric Mann-Whitney U test was used in preference to the parametric *t* test of difference between two means because very few of the 67 variables were normally distributed and the *t* test assumes normality and common variance. However, since the *t* test is very robust, it was decided subsequently to also compute *t* tests of mean difference for the pilot study sample using Program BMDP3D in the library of Biomedical Computer Programs[13] at the UCLA Health Sciences Computing Facility. The results of these computer runs agreed substantially with the results obtained using the Mann-Whitney U test, primarily because the sample size of the various criterion groups in the pilot study sample was equal and large (N=75). The probability level of these two statistical tests differed occasionally and only when the result fell near the boundary of the various bench marks of statistical significance (e.g., the *t* test might be significant between the .01 and .001 probability levels and the Mann-Whitney U test might be significant between the .05 and .01 probability levels).

As a consequence of the pilot study experience, both the Mann-Whitney U test and the *t* test of mean difference were computed on each of the 67 variables for the cross validation and generalization samples. These computations were made for each pair of criterion groups in both the evaluation and the justification sections. The Mann-Whitney U tests were performed at the computing facility of the Naval Electronics Laboratory Center in San Diego under the supervision of NPRDC. The *t* tests were performed at the UCLA Health Sciences Computing Facility. The results of these computer runs are presented in Appendix D. This appendix reports the number and name of the variable, the value of U, its associated absolute *z* value (approximately a normal deviate), and the corresponding probability level for a 2-tailed test. The convention that was followed in the Mann-Whitney U tests was to enter data into the computer program first for the lower criterion group in the comparison. For those *z* values that achieved statistical significance, the direction of the difference is that the higher criterion group evidenced a greater frequency or greater weighted frequency of the variable. The Mann-Whitney U test probability level in Appendix D is followed by the value of *t* and its probability level for a 2-tailed test. Thus the reader can compare the results of the two statistical tests for each variable.

Those variables resulting in a statistically significant difference in each pairwise criterion group comparison have been extracted from Appendix D

and summarized in four tables---Tables 20 through 23. Only those variables showing a significant difference on both statistical tests have been extracted. Table 20 lists the statistically significant variables for the evaluation section of the cross validation sample. The easiest discrimination to be made should be between the Lower and Upper criterion groups since they are the most widely separated on the criterion variable 19A-PERFORMANCE OF DUTY. Table 20 reveals that eight of the 67 variables showed a statistically significant difference between the Lower and Upper criterion groups. Seven of these eight variables also showed a statistically significant difference between the Lower and Upper criterion groups in the pilot study sample,[18] the exception being Total Number of 3 (New 1) Weights (Average). In evaluating the performance of outstanding chief petty officers as compared to average CPO's, the significant differences reside in the superiority of the top criterion group with respect to professionalism, managerial know-how, more awards and fewer punishments, more superlative attributes, and fewer qualified statements reflecting fair or poor performance.

By comparison Table 20 shows that there were eleven statistically significant differences between the Lower and Middle criterion groups of the cross validation sample on the evaluation section. Only one of these eleven variables showed a statistically significant difference between the Lower and Middle criterion groups in the pilot study sample---Total Number of 2 (New -1) Weights (Poor).[18] In the cross validation sample the areas of performance that differentiated average CPO's from those who are marked as somewhat superior in performance of duty were professionalism, cooperation, responsiveness, resourcefulness, and productivity and achievement. Ratees in the middle criterion group were described with more superlatives and with fewer qualified statements of fair or poor performance.

The most difficult discrimination to be made is that between the Middle and Upper criterion groups. Table 20 shows that despite this difficulty, eight statistically significant differences resulted from the comparison on the evaluation section. Only two of these eight variables showed a statistically significant difference between the Middle and Upper criterion groups in the pilot study sample---f of COOPERATION and wf of COOPERATION.[18] In the cross validation sample the characteristics that differentiated outstanding CPO's from their slightly less qualified colleagues were cooperation, grooming and attire, resourcefulness, and productivity and achievement. A wider range of index terms was used to index the Evaluation Reports of outstanding CPO's which also resulted in more 3 (New 1) weights being assigned to this criterion group.

Moving now to a consideration of the justification section for the cross validation sample (Table 21), all but five of the 67 variables showed a statistically significant difference between the Lower and Upper criterion groups and all but eight of the 67 variables showed a statistically significant difference between the Lower and Middle criterion groups. This plethora of significant results is an artifact occasioned by the requirement to write an individual justification for any mark in the top 10, 5, or 1% columns of Section 19. Despite this built-in bias, five of the 67 variables were not statistically significant for the Lower versus Upper criterion group comparison: f of FLEXIBILITY, wf of FLEXIBILITY, wf of ORGANIZATION, Total Number of 2 (New -1)

TABLE 20

STATISTICALLY SIGNIFICANT VARIABLES RESULTING FROM PAIRWISE CRITERION GROUP COMPARISONS ON THE EVALUATION SECTION (19R) FOR THE CROSS VALIDATION SAMPLE

Lower vs. Upper	Lower vs. Middle	Middle vs. Upper
f of PROFESSIONALISM**	f of COOPERATION*	f of COOPERATION***
wf of PROFESSIONALISM**	wf of COOPERATION*	wf of COOPERATION**
f of AWARDS AND PUNISHMENT**	f of PROFESSIONALISM*	f of GROOMING AND ATTIRE*
wf of AWARDS AND PUNISHMENT**	wf of PROFESSIONALISM*	f of RESOURCEFULNESS*
wf of MANAGEMENT FUNCTIONS*	f of RESPONSIVENESS*	wf of RESOURCEFULNESS*
Total Number of 5 (New 3) Weights***	wf of RESPONSIVENESS*	wf of PRODUCTIVITY AND ACHIEVEMENT*
Total Number of 3 (New 1) Weights**	f of PRODUCTIVITY AND ACHIEVEMENT*	Total Number of 3 (New 1) Weights***
Total Number of 2 (New -1) Weights***	wf of RESOURCEFULNESS*	Total Number of Index Terms Used**
	Sum of Variables 31 through 59**	
	Total Number of 5 (New 3) Weights***	
	Total Number of 2 (New -1) Weights**	

* .01 < P < .05
** .001 < P < .01
*** P < .001

TABLE 21

STATISTICALLY SIGNIFICANT VARIABLES RESULTING FROM PAIRWISE CRITERION GROUP COMPARISONS ON THE JUSTIFICATION SECTION (19S) FOR THE CROSS VALIDATION SAMPLE

Lower vs. Upper	Lower vs. Middle	Middle vs. Upper
f of MANAGEMENT FUNCTIONS***	f of MANAGEMENT FUNCTIONS***	f of SKILLS AND ABILITIES**
wf of MANAGEMENT FUNCTIONS***	wf of MANAGEMENT FUNCTIONS***	wf of SKILLS AND ABILITIES**
f of CONTROLLING***	f of CONTROLLING***	wf of COMMUNICATION*
wf of CONTROLLING***	wf of CONTROLLING***	f of ENDURANCE*
f of LEADERSHIP AND DIRECTING***	f of LEADERSHIP AND DIRECTING***	f of PROFESSIONALISM*
wf of LEADERSHIP AND DIRECTING***	wf of LEADERSHIP AND DIRECTING***	wf of PROFESSIONALISM*
f of ORGANIZATION*	f of ORGANIZATION**	f of RESPONSIVENESS*
f of PLANNING***	wf of ORGANIZATION*	f of TECHNICAL SKILLS**
wf of PLANNING***	f of PLANNING***	wf of TECHNICAL SKILLS***
f of STAFFING**	wf of PLANNING***	f of PRODUCTIVITY AND ACHIEVEMENT***
wf of STAFFING**	f of STAFFING*	wf of PRODUCTIVITY AND ACHIEVEMENT***
f of USE OF COMMUNICATION*	wf of STAFFING*	f of POTENTIAL*
wf of USE OF COMMUNICATION*	f of SKILLS AND ABILITIES***	wf of POTENTIAL**
f of SKILLS AND ABILITIES***	wf of SKILLS AND ABILITIES***	f of ASSET TO THE NAVY*
wf of SKILLS AND ABILITIES***	f of COMMUNICATION***	wf of ASSET TO THE NAVY*
f of COMMUNICATION***	wf of COMMUNICATION***	Sum of Variables 1 through 29**
wf of COMMUNICATION***	f of CONDUCT, INTEGRITY, AND PRIDE***	Sum of Variables 31 through 59***
f of CONDUCT, INTEGRITY, AND PRIDE***	wf of CONDUCT, INTEGRITY, AND PRIDE***	Total Number of 5 (New 3) Weights*
wf of CONDUCT, INTEGRITY, AND PRIDE***	f of COOPERATION***	Total Number of 4 (New 2) Weights**
f of COOPERATION***	wf of COOPERATION**	Total Number of Words in Text**
wf of COOPERATION***	f of GROOMING AND ATTIRE***	Total Number of Index Terms Used**
f of ENDURANCE***	wf of GROOMING AND ATTIRE**	
wf of ENDURANCE**		

* .01 < P < .05
** .001 < P < .01
*** P < .001

(Continued)

TABLE 21 (CONT.)

STATISTICALLY SIGNIFICANT VARIABLES RESULTING FROM PAIRWISE CRITERION GROUP COMPARISONS ON THE JUSTIFICATION SECTION (19S) FOR THE CROSS VALIDATION SAMPLE

Lower vs. Upper	Lower vs. Middle	Middle vs. Upper
f of GROOMING AND ATTIRE***	f of INITIATIVE***	
wf of GROOMING AND ATTIRE***	wf of INITIATIVE**	
f of INITIATIVE***	f of PROFESSIONALISM***	
wf of INITIATIVE***	wf of PROFESSIONALISM***	
f of INTELLECTUAL FUNCTIONING**	f of RELIABILITY AND DEPENDABILITY***	
wf of INTELLECTUAL FUNCTIONING*	wf of RELIABILITY AND DEPENDABILITY***	
f of PROFESSIONALISM***	f of RESOURCEFULNESS**	
wf of PROFESSIONALISM***	wf of RESOURCEFULNESS**	
f of RELIABILITY AND DEPENDABILITY***	f of RESPONSIVENESS**	
wf of RELIABILITY AND DEPENDABILITY***	wf of RESPONSIVENESS**	
f of RESOURCEFULNESS***	f of TECHNICAL SKILLS***	
wf of RESOURCEFULNESS***	wf of TECHNICAL SKILLS***	
f of RESPONSIVENESS***	f of PRODUCTIVITY AND ACHIEVEMENT***	
wf of RESPONSIVENESS***	wf of PRODUCTIVITY AND ACHIEVEMENT***	
f of TECHNICAL SKILLS***	wf of AWARDS AND PUNISHMENT*	
wf of TECHNICAL SKILLS***	f of DRIVE***	
f of PRODUCTIVITY AND ACHIEVEMENT***	wf of DRIVE***	
wf of PRODUCTIVITY AND ACHIEVEMENT***	f of SERVICE MOTIVATION*	
f of AWARDS AND PUNISHMENT*	wf of SERVICE MOTIVATION*	
wf of AWARDS AND PUNISHMENT**	f of POTENTIAL***	
	wf of POTENTIAL***	

* .01 < P < .05
** .001 < P < .01
*** P < .001

(Continued)

TABLE 21 (CONT.)

STATISTICALLY SIGNIFICANT VARIABLES RESULTING FROM PAIRWISE CRITERION GROUP COMPARISONS ON THE JUSTIFICATION SECTION (19S) FOR THE CROSS VALIDATION SAMPLE

Lower vs. Upper	Lower vs. Middle	Middle vs. Upper
f of DRIVE***	f of REPUTE***	
wf of DRIVE***	wf of REPUTE**	
f of SERVICE MOTIVATION***	f of ASSET TO THE NAVY*	
wf of SERVICE MOTIVATION***	wf of ASSET TO THE NAVY*	
f of POTENTIAL***	Sum of Variables 1 through 29***	
wf of POTENTIAL***	Sum of Variables 31 through 59***	
f of REPUTE***	Total Number of 5 (New 3) Weights***	
wf of REPUTE***	Total Number of 4 (New 2) Weights***	
f of ASSET TO THE NAVY***	Total Number of 3 (New 1) Weights***	
wf of ASSET TO THE NAVY***	Total Number of Words in Text***	
Sum of Variables 1 through 29***	Total Number of Index Terms Used***	
Sum of Variables 31 through 59***		
Total Number of 5 (New 3) Weights***		
Total Number of 4 (New 2) Weights***		
Total Number of 3 (New 1) Weights***		
Total Number of Words in Text***		
Total Number of Index Terms Used***		

* .01 < P < .05
** .001 < P < .01
*** P < .001

Weights (Poor), and Total Number of 1 (New -2) Weights (Poorest). No 2 or 1 weights were used in indexing the Upper criterion group and only two 2 weights and one 1 weight were used in indexing the Lower criterion group (see Table 15). Eight of the 67 variables were not statistically significant for the Lower versus Middle criterion group comparison: f of ENDURANCE, wf of ENDURANCE, f of FLEXIBILITY, wf of FLEXIBILITY, f of AWARDS AND PUNISHMENT, wf of INTELLECTUAL FUNCTIONING, Total Number of 2 (New -1) Weights (Poor), and Total Number of 1 (New -2) Weights (Poorest). Only two 2 weights and no 1 weights were used in indexing the Middle criterion group compared to two 2 weights and one 1 weight for the Lower criterion group (see Table 15).

The only really cogent comparison for the justification section is between the Upper and the Middle criterion groups because both of these groups required justification comments. Table 21 shows that 21 of the 67 variables evidenced a statistically significant difference between these two criterion groups, eight of which also showed a statistically significant difference between the Upper and Middle criterion groups in the pilot study sample---wf of SKILLS AND ABILITIES, f of PRODUCTIVITY AND ACHIEVEMENT, wf of PRODUCTIVITY AND ACHIEVEMENT, Sum of Variables 1 through 29, Sum of Variables 31 through 59, Total Number of 5 (New 3) Weights, Total Number of Words in Text, and Total Number of Index Terms Used.[19] When the evaluator is required to justify his marks in evaluating a ratee, he apparently calls out certain areas of performance that distinguish the ratee in the Upper criterion group from his slightly less qualified colleague in the Middle criterion group. In the cross validation sample skills and abilities as well as productivity and achievement were the differentiating areas of performance. The ratee in the Upper criterion group also had bestowed upon him more superlative adjectives and adverbs. All three criterion group comparisons on the justification section of the Evaluation Report showed significant differences on both Total Number of Words in Text and Total Number of Index Terms Used.

Table 22 lists the statistically significant variables for the evaluation section of the generalization sample. Again, the easiest discrimination to be made should be between the Lower and Upper criterion groups since they are the most widely separated on the criterion variable 19A-PERFORMANCE OF DUTY. Only four of the 67 variables showed a statistically significant difference between the Lower and Upper criterion groups---f of AWARDS AND PUNISHMENT, wf of AWARDS AND PUNISHMENT, Total Number of 5 (New 3) Weights (Excellent), and Total Number of 2 (New -1) Weights (Poor). All four of these variables also showed a statistically significant difference between the Lower and Upper criterion groups on the evaluation section of the cross validation sample.

By comparison Table 22 shows that there were six statistically significant differences between the Lower and Middle criterion groups of the generalization sample on the evaluation section. Only one of these six variables also showed a statistically significant difference between the Lower and Middle criterion groups on the evaluation section of the cross validation sample---Total Number of 2 (New -1) Weights (Poor). Four statistically significant differences resulted from the comparison between the Middle and Upper criterion groups on the evaluation section of the generalization sample---f of POTENTIAL, wf of POTENTIAL, Total Number of 5 (New 3) Weights (Excellent), and Total Number of 2 (New -1) Weights (Poor). None of these four variables overlapped with those

TABLE 22

STATISTICALLY SIGNIFICANT VARIABLES RESULTING FROM PAIRWISE CRITERION GROUP COMPARISONS ON THE EVALUATION SECTION (19R) FOR THE GENERALIZATION SAMPLE

Lower vs. Upper	Lower vs. Middle	Middle vs. Upper
f of AWARDS AND PUNISHMENT*	f of MANAGEMENT FUNCTIONS*	f of POTENTIAL*
wf of AWARDS AND PUNISHMENT**	wf of MANAGEMENT FUNCTIONS**	wf of POTENTIAL*
Total Number of 5 (New 3) Weights**	f of COMMUNICATION**	Total Number of 5 (New 3) Weights*
Total Number of 2 (New -1) Weights***	f of POTENTIAL*	Total Number of 2 (New -1) Weights*
	wf of POTENTIAL**	
	Total Number of 2 (New -1) Weights*	

* .01 < P < .05
** .001 < P < .01
*** P < .001

that were statistically significant for the Middle versus Upper criterion group comparison on the evaluation section of the cross validation sample. These results may indicate that the findings in the cross validation sample may not map particularly well onto the findings in the generalization sample, probably because of the differences in the occupational ratings represented in these two samples. This issue will be dealt with more thoroughly later in this section when the results of the stepwise discriminant analyses are discussed.

Moving now to a consideration of the justification section for the generalization sample (Table 23), all but nine of the 67 variables showed a statistically significant difference between the Lower and Upper criterion groups. Four of these nine variables also showed a lack of statistical significance between the Lower and Upper criterion groups on the justification section of the cross validation sample---f of FLEXIBILITY, wf of FLEXIBILITY, Total Number of 2 (New -1) Weights (Poor), and Total Number of 1 (New -2) Weights (Poorest). All but 15 of the 67 variables showed a statistically significant difference between the Lower and Middle criterion groups on the justification section of the generalization sample (Table 23). Five of these 15 variables also showed a lack of statistical significance between the Lower and Middle criterion groups on the justification section of the cross validation sample---f of FLEXIBILITY, wf of FLEXIBILITY, f of AWARDS AND PUNISHMENT, Total Number of 2 (New -1) Weights (Poor), and Total Number of 1 (New -2) Weights (Poorest).

As pointed out earlier, the only really cogent comparison for the justification section is between the Upper and the Middle criterion groups because both of these groups required justification comments. Table 23 shows that 38 of the 67 variables evidenced a statistically significant difference between these two criterion groups in the generalization sample, 17 of which also showed a statistically significant difference between the Upper and Middle criterion groups in the cross validation sample. This finding suggests that there is partial overlap between these two samples. The nonoverlapping areas may be attributed to a difference in the nature of the occupational ratings represented in the cross validation and the generalization samples and/or to unreliability in the indexing procedure, although the results of the reliability study presented in Section 5 suggest that differences among the four occupational ratings provide a more reasonable explanation for these results than unreliability. Both of these issues will be discussed more fully later in this report.

In every pairwise criterion group comparison shown in Tables 20 through 23, one or more of the five variables involving Total Number of 5 (New 3), 4 (New 2), 3 (New 1), 2 (New -1), or 1 (New -2) Weights proved to be significantly differentiating. This finding supports the results of the correlational analysis presented in Appendix C in which the system used for weighting Variables 31 through 59 was highlighted as an important aspect of the content analysis methodology.

Thus far in this report the 67 quantitative variables derived from the indexing form have been considered individually as potential discriminators among the three criterion groups in the evaluation and justification sections of the various samples. However, it is of considerable interest to learn how well this set of variables, used in optimal combination, can classify each of

TABLE 23

STATISTICALLY SIGNIFICANT VARIABLES RESULTING FROM PAIRWISE CRITERION GROUP COMPARISONS ON THE JUSTIFICATION SECTION (19S) FOR THE GENERALIZATION SAMPLE

Lower vs. Upper	Lower vs. Middle	Middle vs. Upper
f of MANAGEMENT FUNCTIONS***	f of MANAGEMENT FUNCTIONS***	f of CONTROLLING*
wf of MANAGEMENT FUNCTIONS***	wf of MANAGEMENT FUNCTIONS***	wf of CONTROLLING*
f of CONTROLLING***	f of CONTROLLING**	f of LEADERSHIP AND DIRECTING***
wf of CONTROLLING***	wf of CONTROLLING**	wf of LEADERSHIP AND DIRECTING**
f of LEADERSHIP AND DIRECTING***	f of LEADERSHIP AND DIRECTING***	f of SKILLS AND ABILITIES**
wf of LEADERSHIP AND DIRECTING***	wf of LEADERSHIP AND DIRECTING***	wf of SKILLS AND ABILITIES**
f of ORGANIZATION*	f of PLANNING***	f of COMMUNICATION***
wf of ORGANIZATION*	wf of PLANNING***	wf of COMMUNICATION***
f of PLANNING***	f of SKILLS AND ABILITIES***	f of CONDUCT, INTEGRITY, AND PRIDE*
wf of PLANNING***	wf of SKILLS AND ABILITIES***	wf of CONDUCT, INTEGRITY, AND PRIDE**
f of REPRESENTATION*	f of CONDUCT, INTEGRITY, AND PRIDE***	f of COOPERATION***
wf of REPRESENTATION*	wf of CONDUCT, INTEGRITY, AND PRIDE***	wf of COOPERATION**
f of SKILLS AND ABILITIES***	f of ENDURANCE*	f of INITIATIVE**
wf of SKILLS AND ABILITIES***	wf of ENDURANCE*	wf of INITIATIVE**
f of COMMUNICATION***	f of GROOMING AND ATTIRE**	f of PROFESSIONALISM**
wf of COMMUNICATION***	wf of GROOMING AND ATTIRE**	wf of PROFESSIONALISM**
f of CONDUCT, INTEGRITY, AND PRIDE***	f of INITIATIVE***	f of RELIABILITY AND DEPENDABILITY*
wf of CONDUCT, INTEGRITY, AND PRIDE***	wf of INITIATIVE***	wf of RELIABILITY AND DEPENDABILITY**
f of COOPERATION***	f of INTELLECTUAL FUNCTIONING*	f of RESOURCEFULNESS*
wf of COOPERATION***	f of PROFESSIONALISM***	wf of RESOURCEFULNESS**
f of ENDURANCE**	wf of PROFESSIONALISM**	
wf of ENDURANCE**		

* .01 < P < .05
** .001 < P < .01
*** P < .001

(Continued)

TABLE 23 (CONT.)

STATISTICALLY SIGNIFICANT VARIABLES RESULTING FROM PAIRWISE CRITERION GROUP COMPARISONS ON THE JUSTIFICATION SECTION (19S) FOR THE GENERALIZATION SAMPLE

Lower vs. Upper	Lower vs. Middle	Middle vs. Upper
f of GROOMING AND ATTIRE***	f of RELIABILITY AND DEPENDABILITY***	f of TECHNICAL SKILLS***
wf of GROOMING AND ATTIRE***	wf of RELIABILITY AND DEPENDABILITY***	wf of TECHNICAL SKILLS***
f of INITIATIVE***	f of RESOURCEFULNESS***	wf of PRODUCTIVITY AND ACHIEVEMENT*
wf of INITIATIVE***	wf of RESOURCEFULNESS**	f of DRIVE***
f of INTELLECTUAL FUNCTIONING***	f of RESPONSIVENESS**	wf of DRIVE***
wf of INTELLECTUAL FUNCTIONING**	wf of RESPONSIVENESS**	f of SERVICE MOTIVATION*
f of PROFESSIONALISM***	f of TECHNICAL SKILLS***	wf of SERVICE MOTIVATION*
wf of PROFESSIONALISM***	wf of TECHNICAL SKILLS***	f of POTENTIAL**
f of RELIABILITY AND DEPENDABILITY***	f of PRODUCTIVITY AND ACHIEVEMENT***	wf of POTENTIAL***
wf of RELIABILITY AND DEPENDABILITY***	wf of PRODUCTIVITY AND ACHIEVEMENT***	f of ASSET TO THE NAVY*
f of RESOURCEFULNESS***	f of DRIVE***	wf of ASSET TO THE NAVY*
wf of RESOURCEFULNESS***	wf of DRIVE***	Sum of Variables 1 through 29***
f of RESPONSIVENESS**	f of SERVICE MOTIVATION*	Sum of Variables 31 through 59***
wf of RESPONSIVENESS**	wf of SERVICE MOTIVATION*	Total Number of 5 (New 3) Weights***
f of TECHNICAL SKILLS***	f of POTENTIAL**	Total Number of 4 (New 2) Weights***
wf of TECHNICAL SKILLS***	wf of POTENTIAL**	Total Number of 3 (New 1) Weights*
f of PRODUCTIVITY AND ACHIEVEMENT***	f of REPUTE**	Total Number of Words in Text***
wf of PRODUCTIVITY AND ACHIEVEMENT***	wf of REPUTE**	Total Number of Index Terms Used***
	f of ASSET TO THE NAVY***	
	wf of ASSET TO THE NAVY***	

* .01 < P < .05
** .001 < P < .01
*** P < .001

(Contined)

TABLE 23 (CONT.)

STATISTICALLY SIGNIFICANT VARIABLES RESULTING FROM PAIRWISE CRITERION GROUP COMPARISONS ON THE JUSTIFICATION SECTION (19S) FOR THE GENERALIZATION SAMPLE

Lower vs. Upper	Lower vs. Middle	Middle vs. Upper
f of DRIVE***	Sum of Variables 1 through 29***	
wf of DRIVE***	Sum of VAriables 31 through 59***	
f of SERVICE MOTIVATION***	Total Number of 5 (New 3) Weights***	
wf of SERVICE MOTIVATION***	Total Number of 4 (New 2) Weights***	
f of POTENTIAL***	Total Number of 3 (New 1) Weights***	
wf of POTENTIAL***	Total Number of Words in Text***	
f of REPUTE***	Total Number of Index Terms Used***	
wf of REPUTE***		
f of ASSET TO THE NAVY***		
wf of ASSET TO THE NAVY***		
Sum of Variables 1 through 29***		
Sum of Variables 31 through 59***		
Total Number of 5 (New 3) Weights***		
Total Number of 4 (New 2) Weights***		
Total Number of 3 (New 1) Weights***		
Total Number of Words in Text***		
Total Number of Index Terms Used***		

* .01 < P < .05
** .001 < P < .01
*** P < .001

the research samples into correct criterion group. Therefore, the three samples were also analyzed by Program BMD07M in the library of Biomedical Computer Programs[13] at the UCLA Health Sciences Computing Facility. This program performs a multiple discriminant analysis in a stepwise manner. At each step one variable is entered into the set of discriminating variables or a variable is deleted if its F value becomes too low. At the option of the user, a classification matrix is computed and printed after those steps specified by the user. This option permits the user to determine if the classification process tends to converge to perfect classification or to maximize at some midway step and then disintegrate as more variables are added to the discriminant function.

A special feature of Program BMD07M allows new cases to be classified by the discriminant functions generated on the original sample. This feature was used to perform two cross validation studies of the AT's and BT's combined and also of the AT's and BT's considered separately. In the first study, the cross validation sample and the pilot study sample were both classified using the cross validation sample discriminant functions. In the second study, the pilot study sample and the cross validation sample were both classified using the pilot study sample discriminant functions. Figure 5 portrays the accuracy of classifying the cross validation sample and the pilot study sample into correct criterion group using the cross validation sample discriminant functions for the evaluation section (19R). For the first three steps of the discriminant analysis the curves for the two samples are very close. Then, as the discriminant analysis progresses step by step, the two curves begin to separate with the accuracy of classifying the pilot study sample being considerably less than the accuracy of classifying the cross validation sample. It was expected, of course, that classification of the pilot study sample using the cross validation sample discriminant functions would be less accurate than classification of the cross validation sample itself. Nonetheless, the pilot study sample curve tracks the behavior of the cross validation sample curve quite faithfully and even drops off precipitously at Step 64 as classification of the cross validation sample disintegrates. Figure 6 portrays the accuracy of classifying the cross validation sample and the pilot study sample into correct criterion group using the cross validation sample discriminant functions for the justification section (19S). As in Figure 5 the curves for the two samples remain very close for the first five steps after which they begin to diverge. Again, less accuracy was achieved in classifying the pilot study sample using the cross validation sample discriminant functions than in classifying the cross validation sample itself. However, it should be noted that for both samples better classification accuracy was achieved on the justification section than on the evaluation section. This is more clearly shown in Table 24.

Table 24 displays the best classification that was achieved on the evaluation section and the justification section of the cross validation sample and the pilot study sample using the cross validation sample discriminant functions. The underlined diagonal elements of the four classification matrices portrayed in Table 24 represent agreement between the statistical classification into criterion group and actual criterion group membership; the off-diagonal elements represent disagreement. The total number of statistical classifications matching actual classification is obtained by summing the diagonal elements of each matrix, shown in Table 24 as the underlined diagonal sum. The step in the discriminant analysis at which this best classification

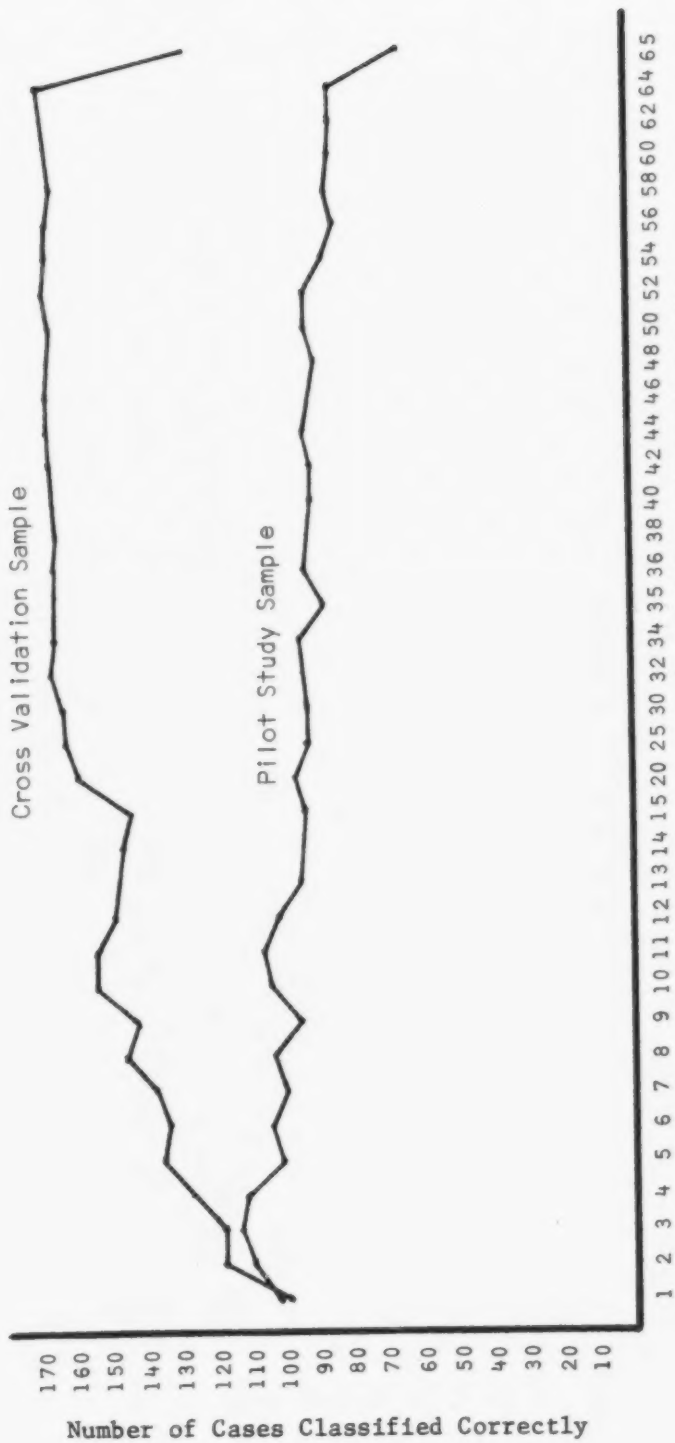
Cross Validation Sample
Pilot Study Sample
Number of Cases Classified Correctly
170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 20 25 30 32 34 35 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 65
Step Number in the Stepwise Discriminant Analysis

Figure 5. Accuracy of Classifying the Cross Validation Sample (N=222) and the Pilot Study Sample (N=224) into Correct Criterion Group Using the Cross Validation Sample Discriminant Functions (Evaluation Section - 19R)

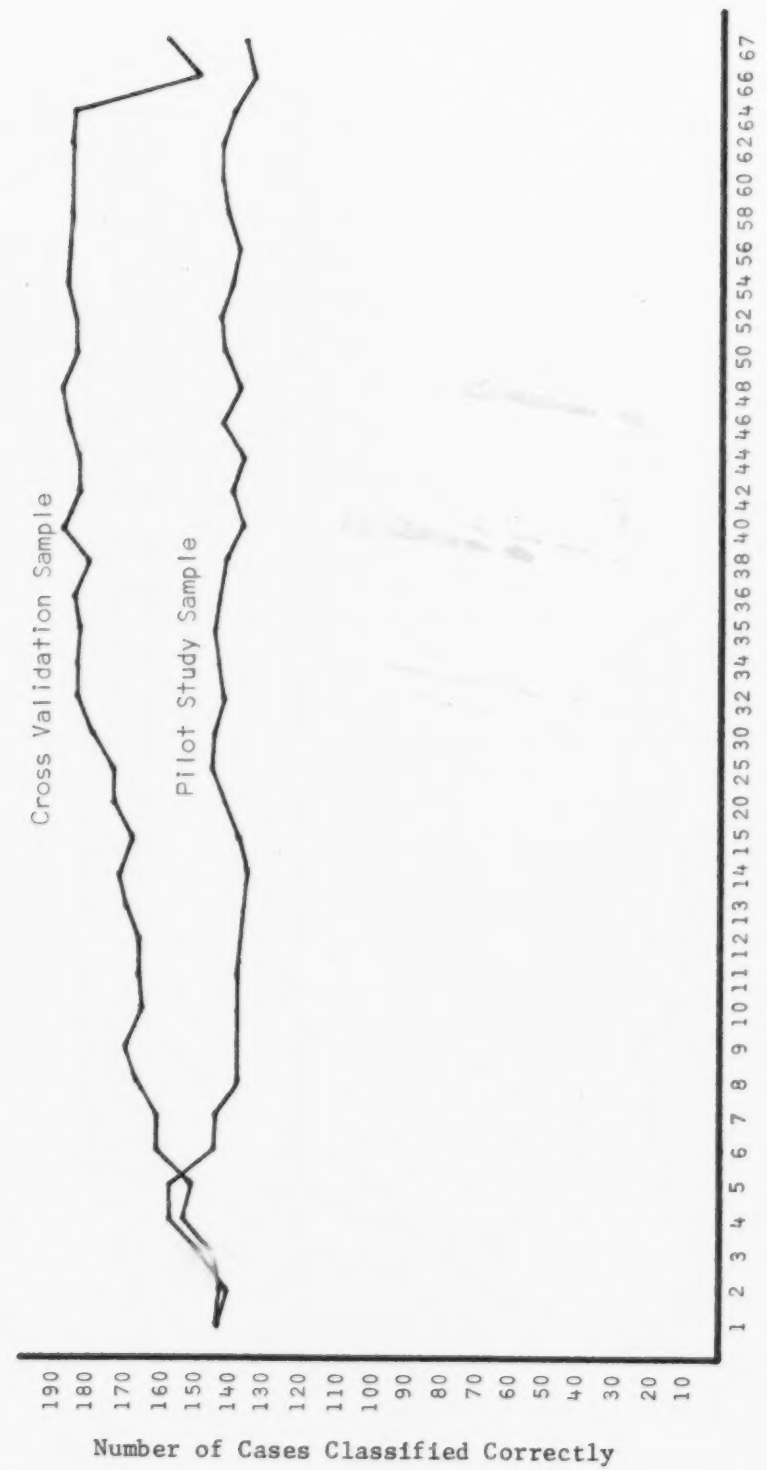

Figure 6. Accuracy of Classifying the Cross Validation Sample (N=222) and the Pilot Study Sample (N=224) into Correct Criterion Group Using the Cross Validation Sample Discriminant Functions (Justification Section - 19S)

TABLE 24

BEST CLASSIFICATION INTO THE THREE CRITERION GROUPS
USING THE CROSS VALIDATION SAMPLE DISCRIMINANT FUNCTIONS

EVALUATION SECTION - 19R

CROSS VALIDATION SAMPLE (N=222)

Step 64

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	63	5	6
MIDDLE	10	52	12
LOWER	9	11	54

Diagonal Sum = 169

PILOT STUDY SAMPLE (N=224)

Step 3

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	54	19	2
MIDDLE	35	23	16
LOWER	23	16	36

Diagonal Sum = 113

JUSTIFICATION SECTION - 19S

CROSS VALIDATION SAMPLE (N=222)

Step 40

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	58	15	1
MIDDLE	8	61	5
LOWER	0	4	70

Diagonal Sum = 189

PILOT STUDY SAMPLE (N=224)

Step 4

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	43	21	11
MIDDLE	15	45	14
LOWER	0	5	70

Diagonal Sum = 158

was achieved is also shown in Table 24 and corresponds to the maximum point on the curves shown in Figures 5 and 6. Of the 222 cases in the cross validation sample, 189 (85%) were classified correctly at Step 40 in the discriminant analysis of the justification section of the cross validation sample. Of the 224 cases in the pilot study sample, 158 (71%) were classified correctly on the justification section with the cross validation sample discriminant functions, this maximum classification accuracy occurring at the fourth step. It should be pointed out that this presentation of the discriminant analysis results assumes that the criterion of actual group membership is perfect where in fact the possibility does exist that some of the members of the sample were given inflated marks on 19A-PERFORMANCE OF DUTY, and consequently, were assigned to an incorrect criterion group. Also, it is possible that narrative comments and evaluation marks may tap different aspects of performance.

Figures 7 and 8 portray the accuracy of classifying the pilot study sample and the cross validation sample into correct criterion group using the pilot study sample discriminant functions. Figure 7 shows these results for the evaluation section (19R) and Figure 8 shows them for the justification section (19S). As in the reverse cross validation shown in Figures 5 and 6, the two curves remain close together for the first five steps or so and then they diverge with the pilot study sample being classified more accurately on its own discriminant functions than the cross validation sample. Once again better classification accuracy was achieved for both samples on the justification section. This is shown more clearly in Table 25. Of the 224 cases in the pilot study sample, 200 (89%) were classified correctly at Step 42 in the discriminant analysis of the justification section of the pilot study sample. Of the 222 cases in the cross validation sample, 149 (67%) were classified correctly on the justification section with the pilot study sample discriminant functions, this maximum classification accuracy occurring at the third step.

It was hypothesized that better classification would be achieved in using Program BMD07M if the two occupational ratings represented in each of the three research samples were analyzed separately. The skills needed to achieve superior performance may be quite different for Aviation Electronics Technicians than for Boilermen. Therefore, two cross validation studies also were conducted for the AT's and for the BT's. Figures 9 and 10 portray the accuracy of classifying the cross validation AT's and the pilot study AT's into correct criterion group using the cross validation AT's discriminant functions. Figure 9 shows these results for the evaluation section (19R) and Figure 10 shows them for the justification section (19S). In both of these figures the two curves remain close together in the earlier steps and then diverge with the cross validation AT's being classified more accurately on their own discriminant functions than the pilot study AT's. As in the total cross validation and pilot study samples, better classification accuracy was achieved for both samples on the justification section. Table 26 shows this more clearly. Of the 138 cross validation AT's, 129 (93%) were classified correctly at Step 46 in the discriminant analysis of the justification section for the cross validation AT's. Of the 144 pilot study AT's, 96 (67%) were classified correctly on the justification section with the cross validation AT's discriminant functions, this maximum classification accuracy occurring on the first step.

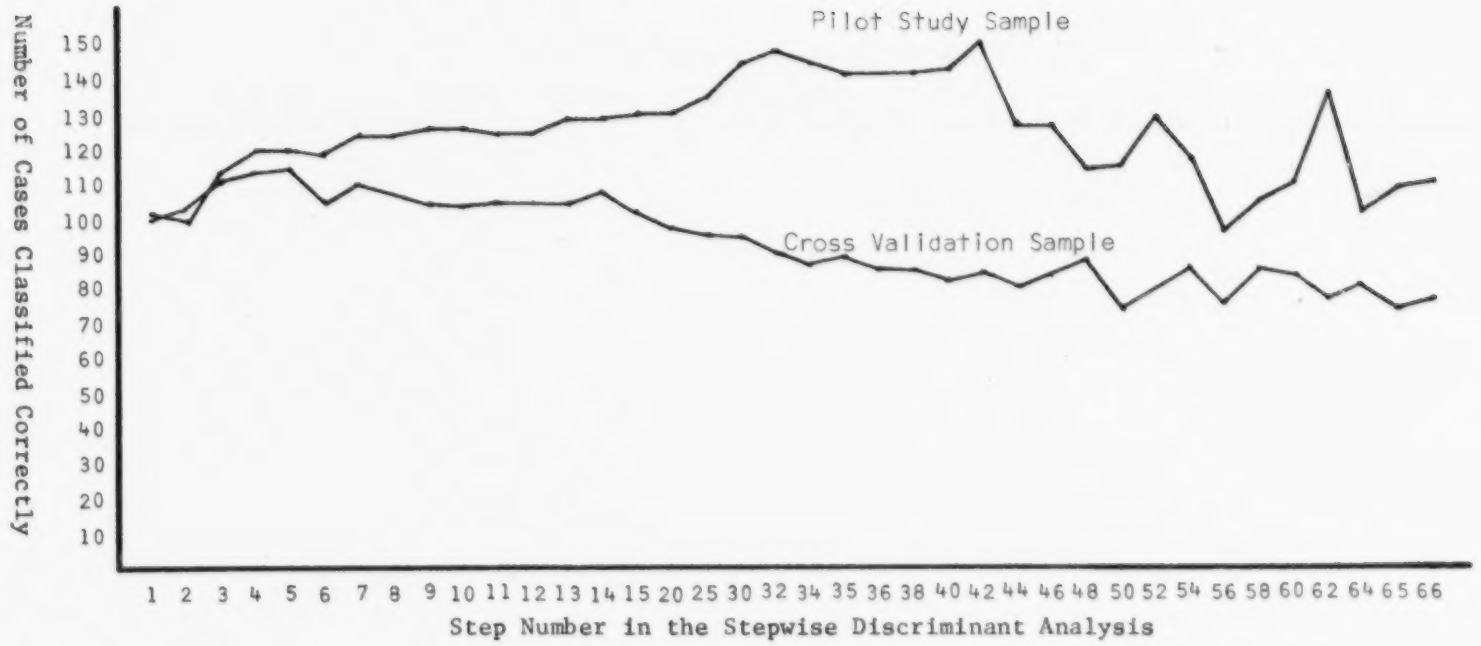

Figure 7. Accuracy of Classifying the Pilot Study Sample (N=224) and the Cross Validation Study Sample (N=222) into Correct Criterion Group Using the Pilot Study Sample Discriminant Functions (Evaluation Section - 19R)

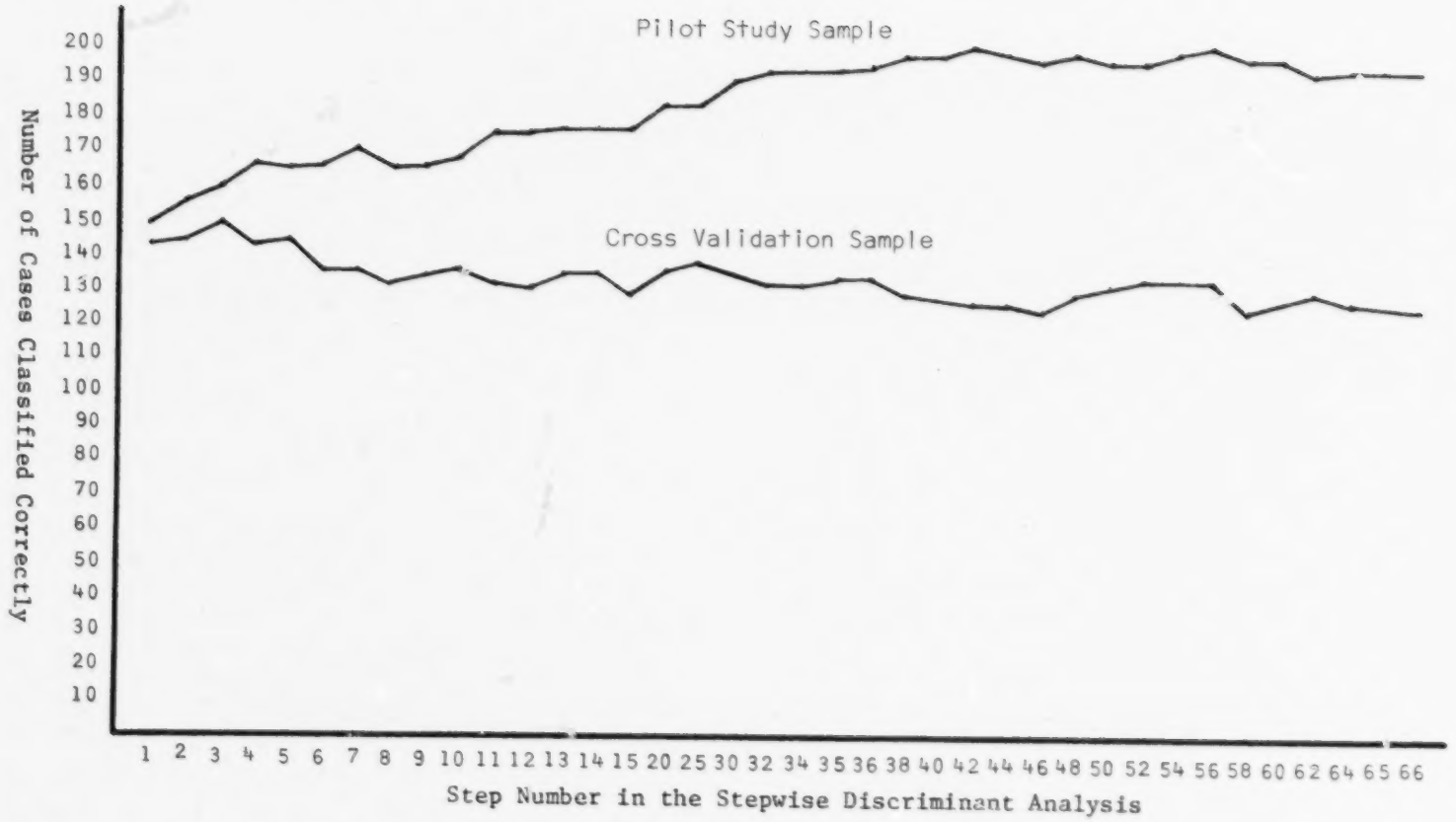

Figure 8. Accuracy of Classifying the Pilot Study Sample (N=224) and the Cross Validation Study Sample (N=222) into Correct Criterion Group Using the Pilot Study Sample Discriminant Functions (Justification Section - 19S)

TABLE 25

BEST CLASSIFICATION INTO THE THREE CRITERION GROUPS
USING THE PILOT STUDY SAMPLE DISCRIMINANT FUNCTIONS

EVALUATION SECTION - 19R

PILOT STUDY SAMPLE (N=224)

Step 42

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	49	17	9
MIDDLE	15	44	15
LOWER	7	11	57

Diagonal Sum = 150

CROSS VALIDATION SAMPLE (N=222)

Step 4

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	34	25	15
MIDDLE	24	26	24
LOWER	8	14	52

Diagonal Sum = 112

JUSTIFICATION SECTION - 19S

PILOT STUDY SAMPLE (N=224)

Step 42

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	62	11	2
MIDDLE	5	64	5
LOWER	0	1	74

Diagonal Sum = 200

CROSS VALIDATION SAMPLE (N=222)

Step 3

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	36	36	2
MIDDLE	14	50	10
LOWER	0	11	63

Diagonal Sum = 149

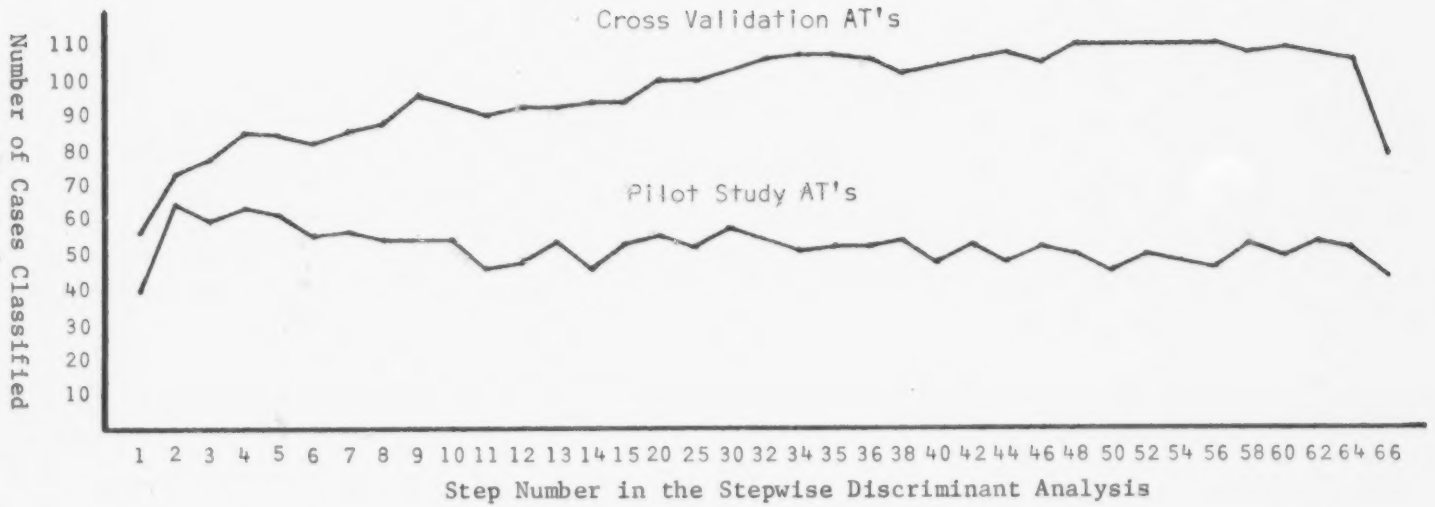
Cross Validation AT's
Pilot Study AT's
Number of Cases Classified Correctly
110
100
90
80
70
60
50
40
30
20
10
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 20 25 30 32 34 35 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66
Step Number in the Stepwise Discriminant Analysis

Figure 9. Accuracy of Classifying the Cross Validation AT's (N=138) and the Pilot Study AT's (N=144) into Correct Criterion Group Using the Cross Validation AT's Discriminant Functions (Evaluation Section - 19R)

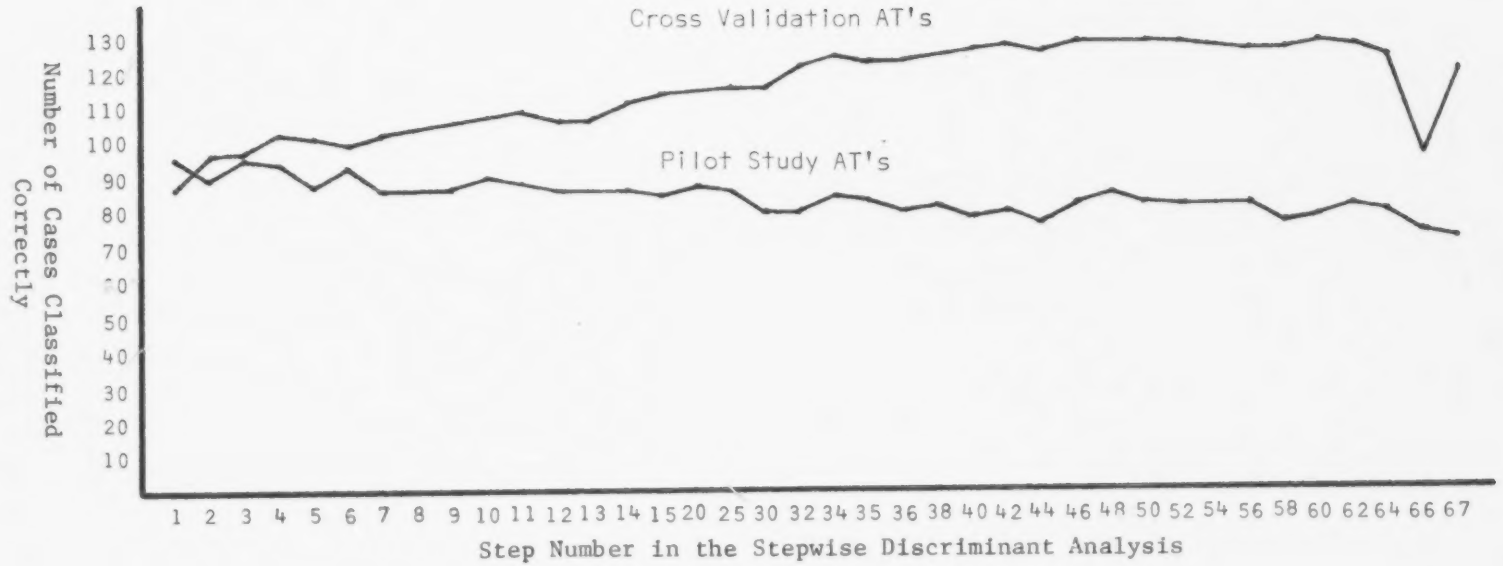

Figure 10. Accuracy of Classifying the Cross Validation AT's (N=138) and the Pilot Study AT's (N=144) into Correct Criterion Group Using the Cross Validation AT's Discriminant Functions (Justification Section - 19S)

TABLE 26

BEST CLASSIFICATION INTO THE THREE CRITERION GROUPS
USING THE CROSS VALIDATION AT's DISCRIMINANT FUNCTIONS

EVALUATION SECTION - 19R

CROSS VALIDATION AT's (N=138)

Step 48

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	38	3	4
MIDDLE	7	34	3
LOWER	7	4	38

Diagonal Sum = 110

PILOT STUDY AT's (N=144)

Step 2

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	26	10	13
MIDDLE	17	1	21
LOWER	10	8	38

Diagonal Sum = 65

JUSTIFICATION SECTION - 19S

CROSS VALIDATION AT's (N=138)

Step 46

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	41	3	1
MIDDLE	3	40	1
LOWER	0	1	48

Diagonal Sum = 129

PILOT STUDY AT's (N=144)

Step 1

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	21	16	12
MIDDLE	11	20	8
LOWER	0	1	55

Diagonal Sum = 96

The results of the reverse cross validation for the pilot study AT's and the cross validation AT's are shown in Figures 11 and 12. Figure 11 portrays the accuracy of classifying the pilot study AT's and the cross validation AT's into correct criterion group on the evaluation section using the pilot study AT's discriminant functions. Figure 12 depicts parallel results for the justification section. It now seems abundantly clear that the two curves remain close together over the first five steps or so and then diverge. The curve for the sample classified by its own discriminant functions continues to rise to some maximum point of classification accuracy, usually between Steps 40 and 50. The best classification accuracy for the sample being classified by the other sample's discriminant functions is achieved very early, typically before Step 5 after which the classification accuracy begins to deteriorate and the two curves diverge. Comparing Figure 11 with Figure 12 it can be seen again that better classification accuracy was achieved for both samples on the justification section. Table 27 presents the classification matrices illustrating this outcome more clearly. Of the 144 pilot study AT's, 137 (95%) were classified correctly at Step 58 in the discriminant analysis of the justification section for the pilot study AT's. Of the 138 cross validation AT's, 91 (66%) were classified correctly on the justification section with the pilot study AT's discriminant functions, this maximum classification accuracy occurring on the third step.

Two cross validation studies also were conducted for the cross validation BT's and the pilot study BT's, and the results from these studies continue to support the picture that has already emerged. Figure 13 portrays the accuracy of classifying the cross validation BT's and the pilot study BT's into correct criterion group on the evaluation section using the cross validation BT's discriminant functions. Parallel results for the justification section are shown in Figure 14. Perfect classification accuracy was achieved on the justification section at Step 46 for the 84 cross validation BT's using their own discriminant functions (see Table 28). Of the 80 pilot study BT's, 54 (68%) were classified correctly on the justification section with the cross validation BT's discriminant functions, this maximum classification accuracy occurring at Step 8.

In the reverse cross validation for the pilot study BT's and the cross validation BT's classified by the pilot study BT's discriminant functions, the results are similar. Figure 15 portrays the curve of classification accuracy for the evaluation section and Figure 16 depicts the classification accuracy curve for the justification section. Table 29 presents the four classification matrices corresponding to Figures 15 and 16 in which the best classification achieved is portrayed. All 80 pilot study BT's were classified correctly on the justification section by their own discriminant functions. Of the 84 cross validation BT's, 55 (65%) were classified correctly on the justification section with the pilot study BT's discriminant functions, this maximum classification accuracy occurring at the first step.

The results of the two cross validation studies were very similar for the total cross validation sample and the total pilot study sample, for the cross validation AT's and the pilot study AT's, and for the cross validation BT's and the pilot study BT's. These findings support the expectation held at the outset of this investigation that it would be possible to index the cross

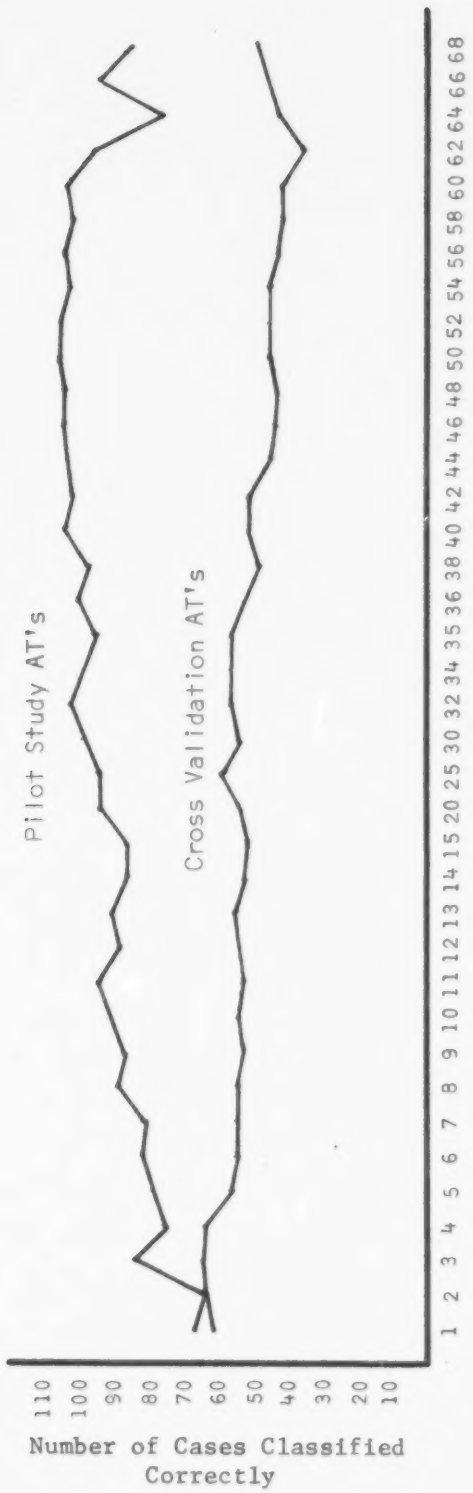
Pilot Study AT's
Cross Validation AT's
110
100
90
80
70
60
50
40
30
20
10
Number of Cases Classified Correctly
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 20 25 30 32 34 35 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68
Step Number in the Stepwise Discriminant Analysis

Figure 11. Accuracy of Classifying the Pilot Study AT's (N=144) and the Cross Validation AT's (N=138) into Correct Criterion Group Using the Pilot Study AT's Discriminant Functions (Evaluation Section - 19R)

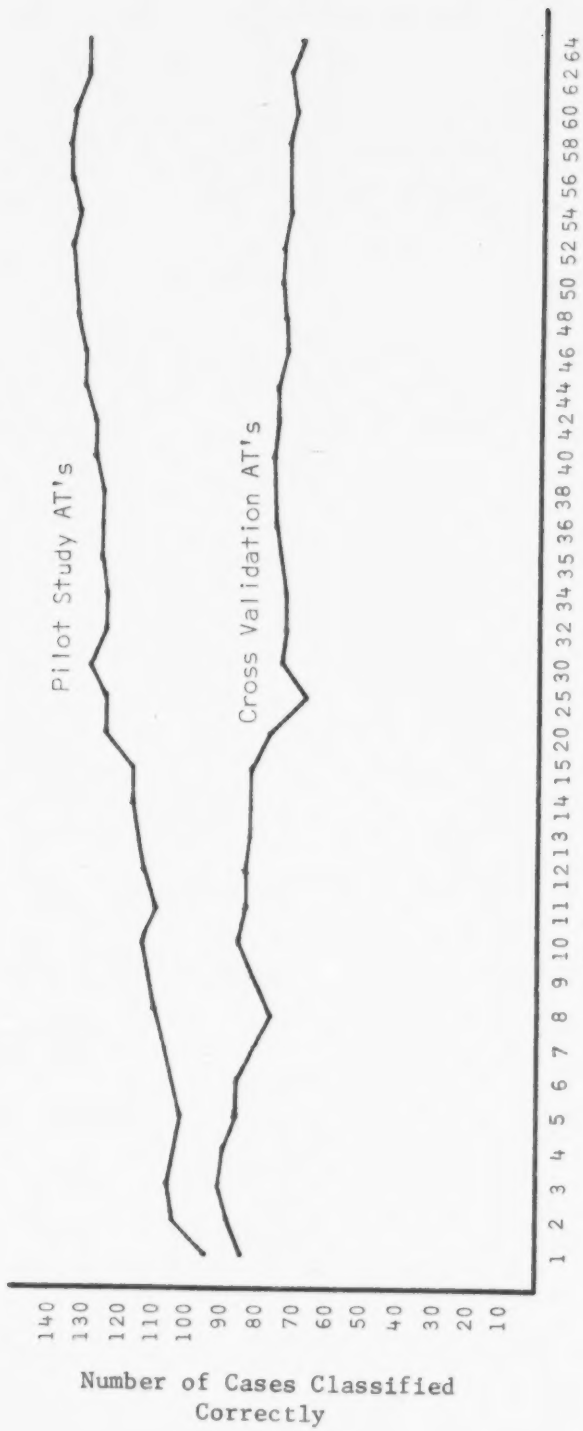
Pilot Study AT's
Cross Validation AT's
Number of Cases Classified Correctly
140 130 120 110 100 90 80 70 60 50 40 30 20 10
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 20 25 30 32 34 35 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64
Step Number in the Stepwise Discriminant Analysis

Figure 12. Accuracy of Classifying the Pilot Study AT's (N=144) and the Cross Validation AT's (N=138) into Correct Criterion Group Using the Pilot Study AT's Discriminant Functions (Justification Section - 19S)

TABLE 27

BEST CLASSIFICATION INTO THE THREE CRITERION GROUPS
USING THE PILOT STUDY AT's DISCRIMINANT FUNCTIONS

EVALUATION SECTION - 19R

PILOT STUDY AT's (N=144)

Step 50

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	35	8	6
MIDDLE	3	28	8
LOWER	8	6	42

Diagonal Sum = 105

CROSS VALIDATION AT's (N=138)

Step 3

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	22	7	16
MIDDLE	22	3	19
LOWER	7	2	40

Diagonal Sum = 65

JUSTIFICATION SECTION - 19S

PILOT STUDY AT's (N=144)

Step 58

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	45	2	2
MIDDLE	2	36	1
LOWER	0	0	56

Diagonal Sum = 137

CROSS VALIDATION AT's (N=138)

Step 3

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	19	20	6
MIDDLE	8	30	6
LOWER	1	6	42

Diagonal Sum = 91

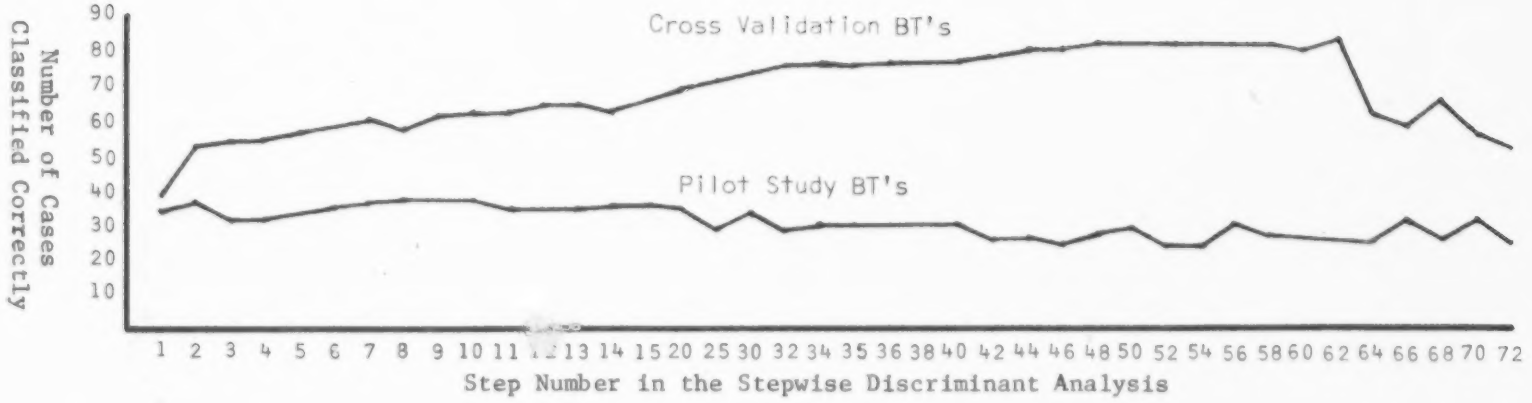
Cross Validation BT's
Pilot Study BT's
Number of Cases Classified Correctly
90
80
70
60
50
40
30
20
10
1 2 3 4 5 6 7 8 9 10 11 13 14 15 20 25 30 32 34 35 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
Step Number in the Stepwise Discriminant Analysis

Figure 13. Accuracy of Classifying the Cross Validation BT's (N=84) and the Pilot Study BT's (N=80) into Correct Criterion Group Using the Cross Validation BT's Discriminant Functions (Evaluation Section - 19R)

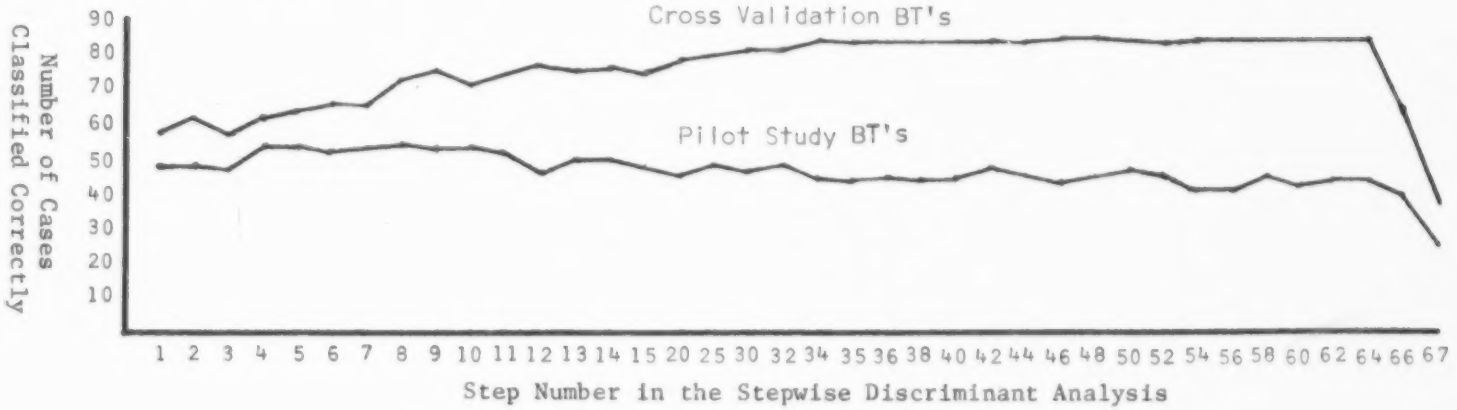
Cross Validation BT's
Pilot Study BT's
Number of Cases Classified Correctly
90
80
70
60
50
40
30
20
10
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 20 25 30 32 34 35 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 67
Step Number in the Stepwise Discriminant Analysis

Figure 14. Accuracy of Classifying the Cross Validation BT's (N=84) and the Pilot Study BT's (N=80) into Correct Criterion Group Using the Cross Validation BT's Discriminant Functions (Justification Section - 19S)

TABLE 28

BEST CLASSIFICATION INTO THE THREE CRITERION GROUPS
USING THE CROSS VALIDATION BT's DISCRIMINANT FUNCTIONS

EVALUATION SECTION - 19R

CROSS VALIDATION BT's (N=84)

Step 62

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	29	0	0
MIDDLE	2	28	0
LOWER	0	0	25

Diagonal Sum = 82

PILOT STUDY BT's (N=80)

Step 8

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	17	2	7
MIDDLE	12	9	14
LOWER	5	2	12

Diagonal Sum = 38

JUSTIFICATION SECTION - 19S

CROSS VALIDATION BT's (N=84)

Step 46

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	29	0	0
MIDDLE	0	30	0
LOWER	0	0	25

Diagonal Sum = 84

PILOT STUDY BT's (N=80)

Step 8

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	19	3	4
MIDDLE	11	16	8
LOWER	0	0	19

Diagonal Sum = 54

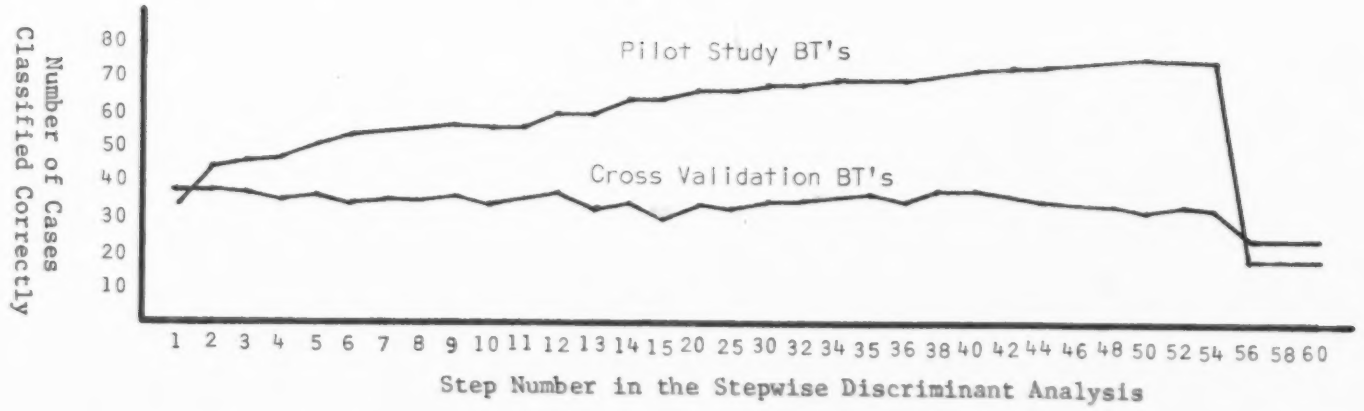
Number of Cases Classified Correctly
80
70
60
50
40
30
20
10
Pilot Study BT's
Cross Validation BT's
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 20 25 30 32 34 35 36 38 40 42 44 46 48 50 52 54 56 58 60
Step Number in the Stepwise Discriminant Analysis

Figure 15. Accuracy of Classifying the Pilot Study BT's (N=80) and the Cross Validation BT's (N=84) into Correct Criterion Group Using the Pilot Study BT's Discriminant Functions (Evaluation Section - 19R)

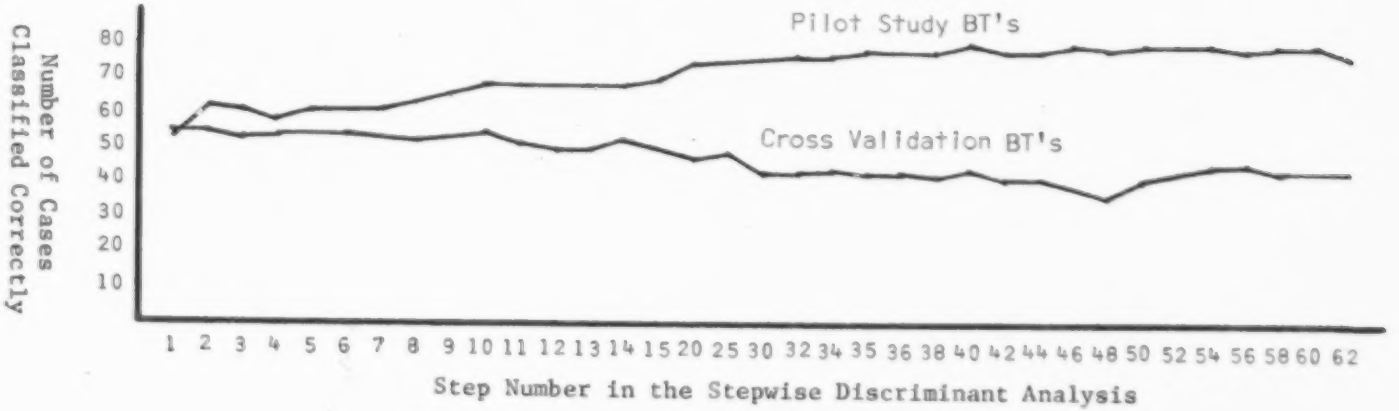
Number of Cases Classified Correctly
80
70
60
50
40
30
20
10
Pilot Study BT's
Cross Validation BT's
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 20 25 30 32 34 35 36 38 40 42 44 46 48 50 52 54 56 58 60 62
Step Number in the Stepwise Discriminant Analysis

Figure 16. Accuracy of Classifying the Pilot Study BT's (N=80) and the Cross Validation BT's (N=84) into Correct Criterion Group Using the Pilot Study BT's Discriminant Functions (Justification Section - 19S)

TABLE 29

BEST CLASSIFICATION INTO THE THREE CRITERION GROUPS
USING THE PILOT STUDY BT's DISCRIMINANT FUNCTIONS

EVALUATION SECTION - 19R

PILOT STUDY BT's (N=80)

Step 50

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	24	2	0
MIDDLE	0	35	0
LOWER	1	0	18

Diagonal Sum = 77

CROSS VALIDATION BT's (N=84)

Step 1

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	14	3	12
MIDDLE	10	9	11
LOWER	6	3	16

Diagonal Sum = 39

JUSTIFICATION SECTION - 19S

PILOT STUDY BT's (N=80)

Step 40

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	26	0	0
MIDDLE	0	35	0
LOWER	0	0	19

Diagonal Sum = 80

CROSS VALIDATION BT's (N=84)

Step 1

Actual Criterion Group Membership	Classification by Discriminant Analysis: UPPER	MIDDLE	LOWER
UPPER	22	7	0
MIDDLE	14	13	3
LOWER	1	4	20

Diagonal Sum = 55

validation sample in the blind, without knowledge of criterion group membership, and achieve as good classification accuracy as was achieved with the pilot study sample where criterion group membership was known to the indexer. Further, it can be concluded that better classification into the three criterion groups using an optimum combination of the 67 quantitative variables is achieved when the two occupational ratings represented in the pilot study sample and the cross validation sample are treated separately. The superior classification accuracy achieved for the BT's compared to the AT's indicates that the Aviation Electronics Technician rating may represent a more varied amalgamation of technical activities than the Boilerman rating. These findings suggest that classification procedures based on the content analysis methodology developed in this research should be tailored to specific occupations. In all of the results presented thus far, better classification was achieved in the discriminant analyses of the justification section compared to the evaluation section. In the various cross validation runs reported, it appears that the best classification accuracy that can be achieved on a second sample using discriminant functions developed on the first sample is 65 to 70 percent. This level of accuracy is achieved early in the stepwise discriminant analysis procedure, typically by the fifth step. This finding suggests that the variables selected by the discriminant analysis program at the first five steps are crucial variables. Later in this section the variables selected for the first 15 steps in each of the cross validation runs will be enumerated. But before turning to this enumeration, the results in classifying the generalization sample (CS's and RM's) will be discussed.

Discriminant analyses also were performed for the CS's and RM's combined (the total generalization sample) as well as for each of these two occupational ratings separately. The accuracy of classifying the generalization sample into correct criterion group is shown in Figures 17 and 18, first for the evaluation section and then for the justification section. Better classification accuracy was achieved for the justification section (see Table 30) than for the evaluation section where 190 of the 222 cases (86%) in the justification portion of the generalization sample were classified correctly.

When the CS's and RM's were considered separately, better classification accuracy was achieved. Referring to Table 30, 58 of the 60 generalization CS's (97%) were classified correctly on the evaluation section. All 60 generalization CS's were classified correctly on the justification section. The curves depicting the accuracy of classifying the CS's on both the evaluation section and the justification section are shown in Figures 19 and 20. The 162 RM's in the generalization sample were not classified as accurately as the CS's, although better classification accuracy for the RM's was achieved on the justification section where 144 cases were classified correctly (89%). These results are shown in Table 30. The curves portraying the accuracy of classifying the RM's on both the evaluation section and the justification section are shown in Figures 21 and 22. Again the superiority of the justification section in providing discriminating narrative comments is demonstrated. On the justification section all 60 CS's were classified correctly by their discriminant functions and 89 percent of the RM's were classified correctly by their discriminant functions. Eighty-six percent of the total generalization sample was classified correctly on the justification section by the discriminant functions based on CS's and RM's combined. This suggests that the occupational rating,

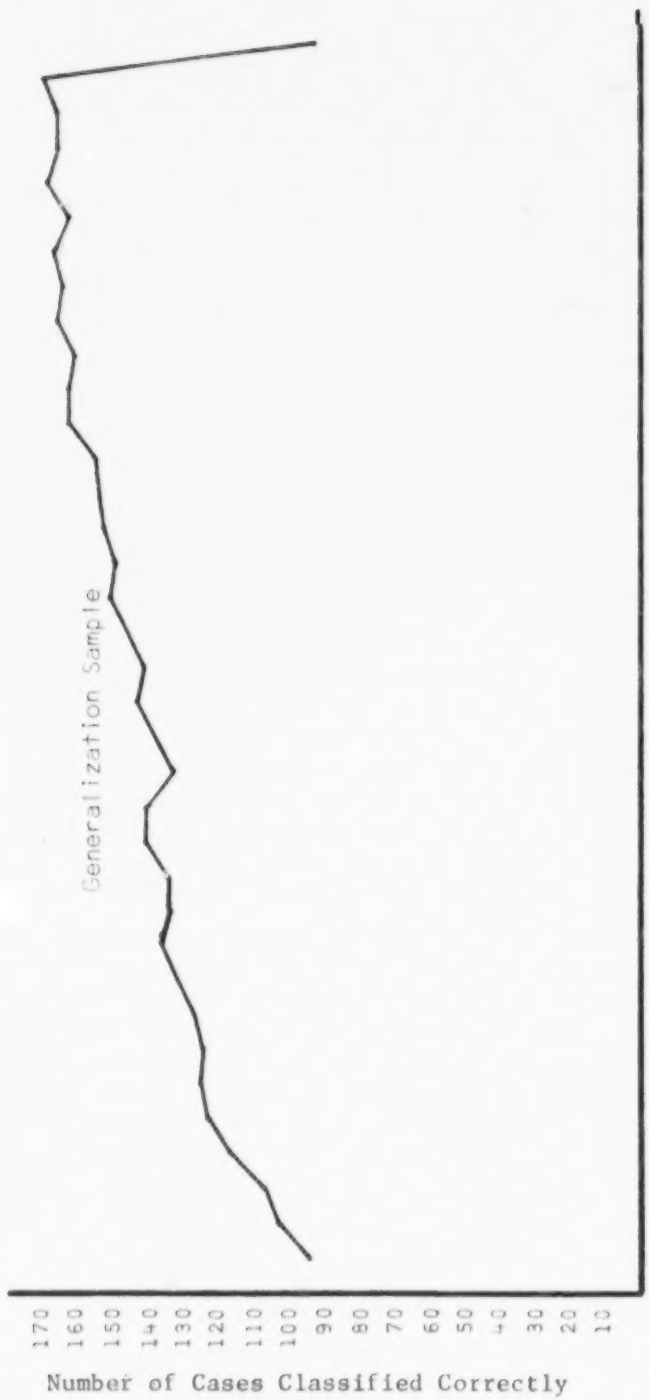

Figure 17. Accuracy of Classifying the Generalization Sample (N=222) into Correct Criterion Group (Evaluation Section - 19R)

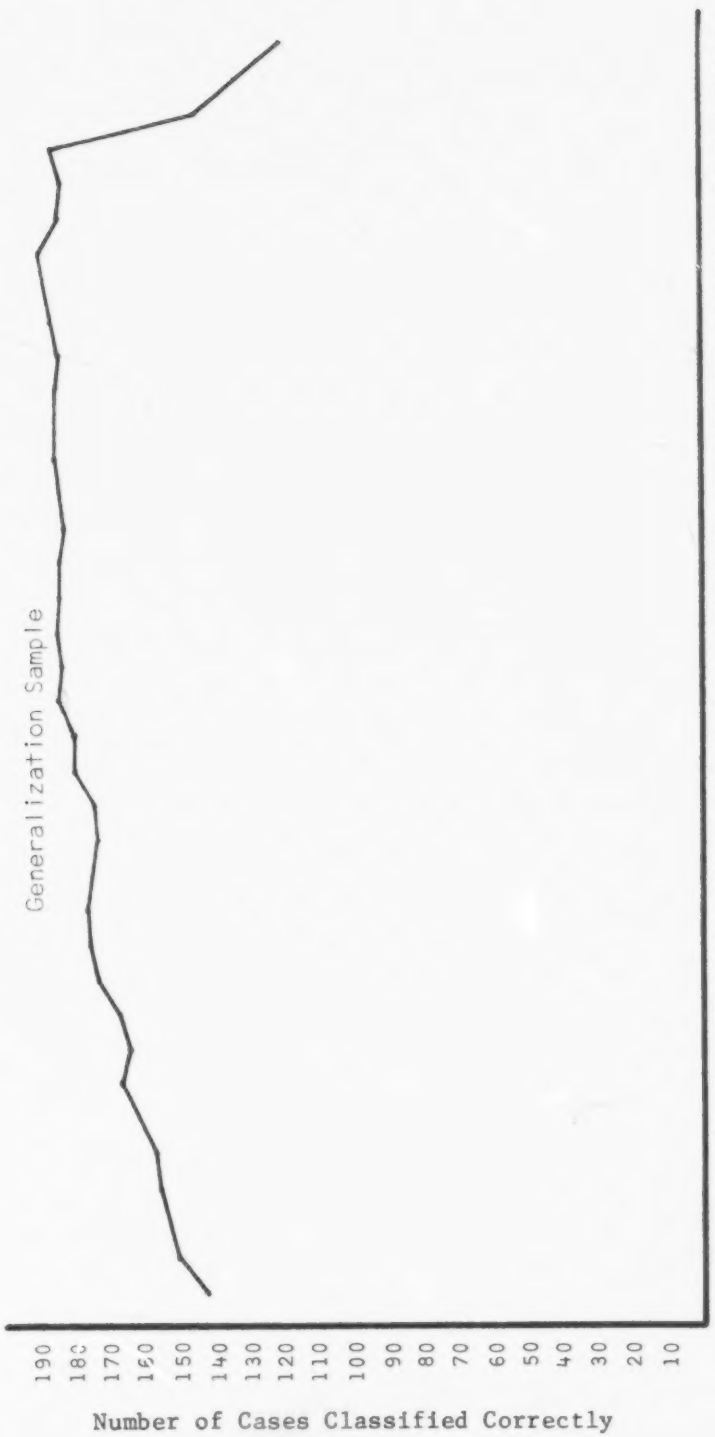

Figure 18. Accuracy of Classifying the Generalization Sample (N=222) into Correct Criterion Group (Justification Section - 19S)

TABLE 30

BEST CLASSIFICATION INTO THE THREE CRITERION GROUPS
FOR THE GENERALIZATION SAMPLE

EVALUATION SECTION - 19R

CS's & RM's COMBINED (N=222)

Step 62

Actual Criterion Group Membership	Classification by Discriminant Analysis		
	UPPER	MIDDLE	LOWER
UPPER	52	18	4
MIDDLE	7	60	7
LOWER	5	11	58

Diagonal Sum = 170

JUSTIFICATION SECTION - 19S

CS's & RM's COMBINED (N=222)

Step 54

Actual Criterion Group Membership	Classification by Discriminant Analysis		
	UPPER	MIDDLE	LOWER
UPPER	59	13	2
MIDDLE	9	60	5
LOWER	0	3	71

Diagonal Sum = 190

CS's (N=60)

Step 44

Actual Criterion Group Membership	Classification by Discriminant Analysis		
	UPPER	MIDDLE	LOWER
UPPER	19	0	0
MIDDLE	1	15	0
LOWER	1	0	24

Diagonal Sum = 58

CS's (N=60)

Step 35

Actual Criterion Group Membership	Classification by Discriminant Analysis		
	UPPER	MIDDLE	LOWER
UPPER	19	0	0
MIDDLE	0	16	0
LOWER	0	0	25

Diagonal Sum = 60

RM's (N=162)

Step 63

Actual Criterion Group Membership	Classification by Discriminant Analysis		
	UPPER	MIDDLE	LOWER
UPPER	47	7	1
MIDDLE	8	46	4
LOWER	3	8	38

Diagonal Sum = 131

RM's (N=162)

Step 40

Actual Criterion Group Membership	Classification by Discriminant Analysis		
	UPPER	MIDDLE	LOWER
UPPER	48	5	2
MIDDLE	6	48	4
LOWER	0	1	48

Diagonal Sum = 144

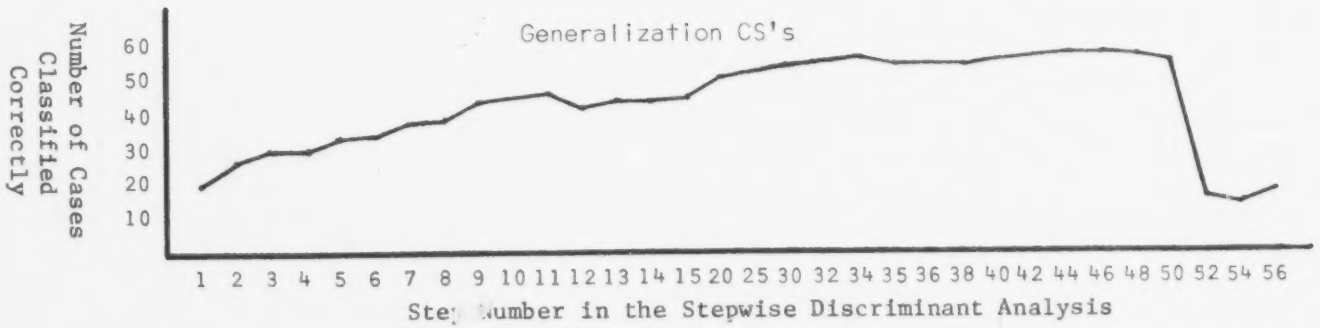
Generalization CS's
Number of Cases Classified Correctly
60
50
40
30
20
10
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 20 25 30 32 34 35 36 38 40 42 44 46 48 50 52 54 56
Step Number in the Stepwise Discriminant Analysis

Figure 19. Accuracy of Classifying the Generalization CS's (N=60) into Correct Criterion Group (Evaluation Section - 19R)

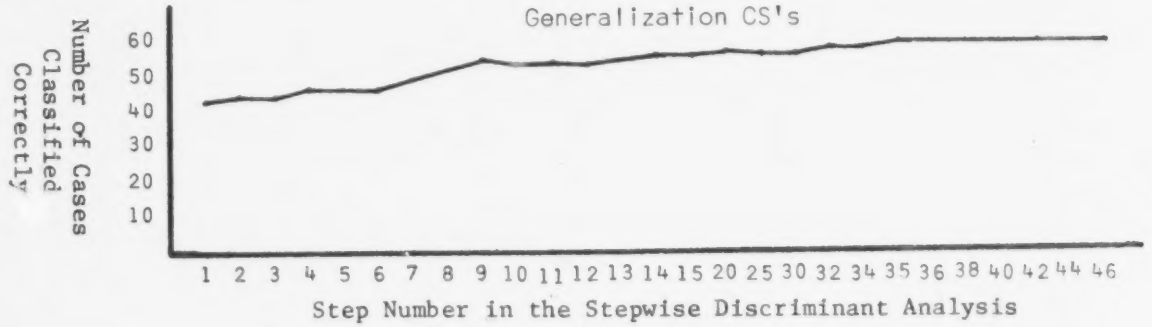
Generalization CS's
Number of Cases Classified Correctly
60
50
40
30
20
10
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 20 25 30 32 34 35 36 38 40 42 44 46
Step Number in the Stepwise Discriminant Analysis

Figure 20. Accuracy of Classifying the Generalization CS's (N=60) into Correct Criterion Group (Justification Section - 19S)

Figure 21. Accuracy of Classifying the Generalization RM's (N=162) into Correct Criterion Group (Evaluation Section - 19R)

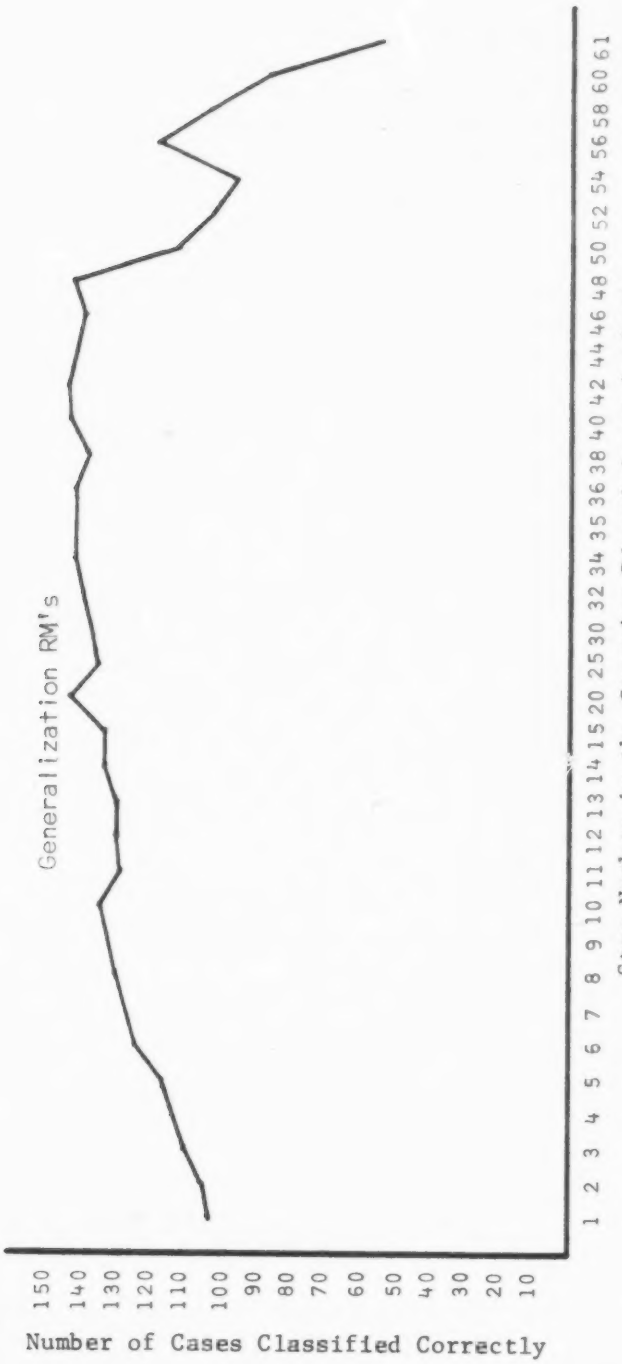

Figure 22. Accuracy of Classifying the Generalization RM's (N=162) into Correct Criterion Group (Justification Section - 19S)

Radioman, may be more heterogeneous and require a greater variety of skills than the Commissaryman rating just as the Aviation Electronics Technician rating may represent a more varied amalgamation of technical activities than the Boilerman rating. The case for treating each occupational rating separately seems to be supported additionally by the classification results for the generalization sample. Moreover, it is evident that the content analysis methodology developed initially on the pilot study sample consisting of AT's and BT's was generalizable to a new sample consisting of two different occupational ratings, viz., CS's and RM's.

A most interesting set of results is revealed by an examination of which variables were selected by the stepwise discriminant analysis program for the first 15 steps in each of the computer runs that were made. Tables 31 and 32 show the results for the total cross validation sample (AT's and BT's combined) and the total pilot study sample (AT's and BT's combined). The results are presented separately for the evaluation section and the justification section. If the variable was one of the first 15 variables selected in both of the samples for each section considered separately, it has been flagged with an asterisk in Tables 31 and 32. Therefore, it can be determined quickly that six of the first 15 variables selected by the stepwise discriminant analysis program in the cross validation sample and the pilot study sample for the evaluation section were the same, namely, Total Number of 5 (New 3) Weights, Total Number of 2 (New -1) Weights, f of COOPERATION, wf of AWARDS AND PUNISHMENT, f of LEADERSHIP AND DIRECTING, and wf of TECHNICAL SKILLS. Furthermore, Total Number of 5 (New 3) Weights was the first variable selected in both samples for the evaluation section, with Total Number of 2 (New -1) Weights being the second variable selected in the pilot study sample and the third variable selected in the cross validation sample. It appears that the incidence of superlative adjectives and adverbs describing excellent performance (5 Weights) and the incidence of negatively comparative adjectives and adverbs describing inadequate performance (2 Weights) constitute key discriminating variables in analyzing the content of narrative comments written for the evaluation section in these two samples.

Of more interest is the justification section since without exception better classification was achieved in the content analysis of the narrative comments written for the justification section. Four of the first 15 variables selected by the stepwise discriminant analysis program for the justification section in the total cross validation sample (AT's and BT's combined) and the total pilot study sample (AT's and BT's combined) were the same. Total Number of Index Terms Used was the first variable selected in both samples. Sum of Variables 1 through 29 was the second variable selected in the cross validation sample and the fourth variable selected in the pilot study sample. wf of PRODUCTIVITY AND ACHIEVEMENT was the third variable selected in the pilot study sample and the fourth variable selected in the cross validation sample. f of DRIVE was the fifth variable selected in the pilot study sample and the seventh variable selected in the cross validation sample.

Similar tables of results also were prepared for the AT's and BT's considered separately in the cross validation and pilot study samples. Tables 33 and 34 show the first 15 variables selected by the stepwise discriminant analysis program for the cross validation AT's and the pilot study AT's in the evaluation and justification sections. As in Tables 31 and 32, an asterisk

TABLE 31

VARIABLES SELECTED BY THE STEPWISE DISCRIMINANT ANALYSIS PROGRAM AT STEPS 1 THROUGH 15 FOR THE CROSS VALIDATION SAMPLE

Step	*Evaluation Section*	*Justification Section*
1	Total Number of 5 (New 3) Weights*	Total Number of Index Terms Used*
2	Total Number of Index Terms Used	Sum of Variables 1 through 29*
3	Total Number of 2 (New -1) Weights*	wf of ORGANIZATION
4	f of COOPERATION*	wf of PRODUCTIVITY AND ACHIEVEMENT*
5	f of PRODUCTIVITY AND ACHIEVEMENT	f of ENDURANCE
6	wf of RESOURCEFULNESS	wf of TECHNICAL SKILLS
7	f of PROFESSIONALISM	f of DRIVE*
8	wf of AWARDS AND PUNISHMENT*	f of INTELLECTUAL FUNCTIONING
9	Total Number of 4 (New 2) Weights	f of ASSET TO THE NAVY
10	f of LEADERSHIP AND DIRECTING*	wf of POTENTIAL
11	wf of RESPONSIVENESS	f of TECHNICAL SKILLS
12	f of TECHNICAL SKILLS	f of CONDUCT, INTEGRITY, AND PRIDE
13	f of POTENTIAL	wf of AWARDS AND PUNISHMENT
14	wf of TECHNICAL SKILLS*	f of LEADERSHIP AND DIRECTING
15	f of RESPONSIVENESS	wf of LEADERSHIP AND DIRECTING

* Also selected by the stepwise discriminant analysis program for this section in the pilot study sample.

TABLE 32

VARIABLES SELECTED BY THE STEPWISE DISCRIMINANT ANALYSIS PROGRAM AT STEPS 1 THROUGH 15 FOR THE PILOT STUDY SAMPLE

Step	*Evaluation Section*	*Justification Section*
1	Total Number of 5 (New 3) Weights*	Total Number of Index Terms Used*
2	Total Number of 2 (New -1) Weights*	Sum of Variables 31 through 59
3	f of LEADERSHIP AND DIRECTING*	wf of PRODUCTIVITY AND ACHIEVEMENT*
4	wf of TECHNICAL SKILLS*	Sum of Variables 1 through 29*
5	Total Number of 1 (New -2) Weights	f of DRIVE*
6	wf of AWARDS AND PUNISHMENT*	Total Number of 3 (New 1) Weights
7	wf of MANAGEMENT FUNCTIONS	wf of STAFFING
8	f of SERVICE MOTIVATION	f of RESOURCEFULNESS
9	f of COOPERATION*	wf of SERVICE MOTIVATION
10	Total Number of 3 (New 1) Weights	f of REPUTE
11	wf of REPRESENTATION	wf of ASSET TO THE NAVY
12	wf of CONTROLLING	wf of FLEXIBILITY
13	wf of COMMUNICATION	wf of GROOMING AND ATTIRE
14	wf of INITIATIVE	f of AWARDS AND PUNISHMENT
15	f of INITIATIVE	wf of CONTROLLING

* Also selected by the stepwise discriminant analysis program for this section in the cross validation sample.

TABLE 33

VARIABLES SELECTED BY THE STEPWISE DISCRIMINANT ANALYSIS PROGRAM AT STEPS 1 THROUGH 15 FOR THE CROSS VALIDATION AT's

Step	*Evaluation Section*	*Justification Section*
1	f of COOPERATION*	Total Number of Index Terms Used*
2	Total Number of 5 (New 3) Weights*	wf of TECHNICAL SKILLS
3	f of TECHNICAL SKILLS	wf of PRODUCTIVITY AND ACHIEVEMENT
4	f of LEADERSHIP AND DIRECTING	wf of SKILLS AND ABILITIES
5	Total Number of 2 (New -1) Weights*	f of COMMUNICATION
6	wf of RESPONSIVENESS	wf of ORGANIZATION
7	f of RESOURCEFULNESS	wf of ASSET TO THE NAVY
8	f of PRODUCTIVITY AND ACHIEVEMENT*	wf of REPUTE
9	f of SERVICE MOTIVATION	wf of AWARDS AND PUNISHMENT
10	wf of TECHNICAL SKILLS	f of INTELLECTUAL FUNCTIONING*
11	Total Number of 4 (New 2) Weights	wf of POTENTIAL
12	f of AWARDS AND PUNISHMENT	f of REPRESENTATION
13	f of PROFESSIONALISM	Total Number of Words in Text
14	Total Number of Index Terms Used*	wf of RESPONSIVENESS
15	Total Number of Words in Text	f of RESPONSIVENESS

* Also selected by the stepwise discriminant analysis program for this section in the pilot study AT subsample.

TABLE 34

VARIABLES SELECTED BY THE STEPWISE DISCRIMINANT ANALYSIS PROGRAM AT STEPS 1 THROUGH 15 FOR THE PILOT STUDY AT's

Step	*Evaluation Section*	*Justification Section*
1	Total Number of 5 (New 3) Weights*	Total Number of Index Terms Used*
2	Total Number of 2 (New -1) Weights*	Total Number of 5 (New 3) Weights*
3	wf of AWARDS AND PUNISHMENT	f of CONDUCT, INTEGRITY, AND PRIDE
4	f of COMMUNICATION	f of INTELLECTUAL FUNCTIONING*
5	f of PRODUCTIVITY AND ACHIEVEMENT*	wf of INTELLECTUAL FUNCTIONING
6	f of COOPERATION*	wf of GROOMING AND ATTIRE
7	wf of MANAGEMENT FUNCTIONS	f of TECHNICAL SKILLS
8	wf of PRODUCTIVITY AND ACHIEVEMENT	f of REPUTE
9	wf of SERVICE MOTIVATION	wf of FLEXIBILITY
10	Total Number of Index Terms Used*	f of PRODUCTIVITY AND ACHIEVEMENT
11	wf of USE OF COMMUNICATION	Sum of Variables 1 through 29
12	f of USE OF COMMUNICATION	wf of ENDURANCE
13	wf of REPRESENTATION	wf of SERVICE MOTIVATION
14	wf of GROOMING AND ATTIRE	wf of CONTROLLING
15	wf of DRIVE	f of ENDURANCE

* Also selected by the stepwise discriminant analysis program for this section in the cross validation AT subsample.

denotes variables within each section that were selected in both samples. On the evaluation section, five of the first 15 variables selected were the same for the cross validation AT's and the pilot study AT's. As expected, Total Number of 5 (New 3) Weights and Total Number of 2 (New -1) Weights were among these five variables. On the justification section, two of the first 15 variables selected were the same for the cross validation AT's and the pilot study AT's. Again, Total Number of Index Terms Used was the first variable selected for both the cross validation AT's and the pilot study AT's.

Tables 35 and 36 show the first 15 variables selected by the stepwise discriminant analysis program for the cross validation BT's and the pilot study BT's in the evaluation and justification sections. Again, an asterisk denotes variables within each section that were selected in both samples. On the evaluation section, two of the first 15 variables selected were the same for the cross validation BT's and the pilot study BT's. Total Number of 5 (New 3) Weights was the first variable selected for both the cross validation BT's and the pilot study BT's. On the justification section, five of the first 15 variables selected were the same for the cross validation BT's and the pilot study BT's. As with the two AT subsamples, Total Number of Index Terms Used was the first variable selected for both the cross validation BT's and the pilot study BT's.

The key discriminating variables for the cross validation and pilot study samples as well as for the AT and BT subsamples were Total Number of 5 (New 3) Weights and Total Number of 2 (New -1) Weights in the evaluation section. In the justification section without exception the key discriminating variable was Total Number of Index Terms Used. What are the results like for the generalization sample? Table 37 shows that these same three variables were those selected first in the stepwise discriminant analysis of the generalization sample. Total Number of 2 (New -1) Weights and Total Number of 5 (New 3) Weights were selected first and second in the evaluation section. Total Number of Index Terms Used was selected first in the justification section.

When the two occupational groups comprising the generalization sample are considered individually, the results are not quite unanimous. Neither Total Number of 5 (New 3) Weights nor Total Number of 2 (New -1) Weights was selected in the evaluation section for the generalization CS's (see Table 38). However, Total Number of Index Terms Used was the first variable selected in the justification section for the generalization CS's. In Table 39 showing the results for the generalization RM's, Total Number of 2 (New -1) Weights was selected as the first variable in the evaluation section and Total Number of 5 (New 3) Weights was selected as the fifth variable. Again, Total Number of Index Terms Used was selected first in the justification section.

Two findings are striking. *Without exception* better classification was achieved in the content analysis of the narrative comments in the justification section, and *without exception* the first variable selected in the various stepwise discriminant analyses for the justification section was Total Number of Index Terms Used. This variable reflects the variety of specific areas of a ratee's performance that the evaluator chose to comment on, and is measured by the number of different index terms selected by the indexer to encompass the narrative content. It appears that the range of skills and abilities that a chief petty officer possesses may be a key factor in his superior performance.

TABLE 35

VARIABLES SELECTED BY THE STEPWISE DISCRIMINANT ANALYSIS PROGRAM AT STEPS 1 THROUGH 15 FOR THE CROSS VALIDATION BT's

Step	*Evaluation Section*	*Justification Section*
1	Total Number of 5 (New 3) Weights*	Total Number of Index Terms Used*
2	Total Number of Index Terms Used	wf of LEADERSHIP AND DIRECTING
3	Sum of Variables 31 through 59	Sum of Variables 1 through 29
4	wf of RESOURCEFULNESS	f of PRODUCTIVITY AND ACHIEVEMENT*
5	f of COOPERATION	wf of CONDUCT, INTEGRITY, AND PRIDE
6	f of RESOURCEFULNESS	f of DRIVE
7	Total Number of Words in Text	wf of SERVICE MOTIVATION
8	f of AWARDS AND PUNISHMENT	f of INITIATIVE*
9	f of ORGANIZATION	f of RESPONSIVENESS
10	f of TECHNICAL SKILLS	f of ASSET TO THE NAVY*
11	f of ASSET TO THE NAVY	wf of DRIVE
12	wf of ASSET TO THE NAVY*	wf of RESOURCEFULNESS
13	wf of FLEXIBILITY	f of RESOURCEFULNESS*
14	wf of REPUTE	f of PROFESSIONALISM
15	f of STAFFING	f of REPRESENTATION

* Also selected by the stepwise discriminant analysis program for this section in the pilot study BT subsample.

TABLE 36

VARIABLES SELECTED BY THE STEPWISE DISCRIMINANT ANALYSIS PROGRAM AT STEPS 1 THROUGH 15 FOR THE PILOT STUDY BT's

Step	*Evaluation Section*	*Justification Section*
1	Total Number of 5 (New 3) Weights	Total Number of Index Terms Used*
2	Total Number of 2 (New -1) Weights	wf of PRODUCTIVITY AND ACHIEVEMENT
3	f of LEADERSHIP AND DIRECTING	f of AWARDS AND PUNISHMENT
4	wf of PROFESSIONALISM	Sum of Variables 31 through 59
5	f of RESPONSIVENESS	f of REPUTE
6	wf of GROOMING AND ATTIRE	f of RESOURCEFULNESS*
7	wf of TECHNICAL SKILLS	f of PRODUCTIVITY AND ACHIEVEMENT*
8	wf of CONTROLLING	wf of CONTROLLING
9	f of SKILLS AND ABILITIES	f of SERVICE MOTIVATION
10	wf of RELIABILITY AND DEPENDABILITY	f of ASSET TO THE NAVY*
11	wf of MANAGEMENT FUNCTIONS	f of ENDURANCE
12	wf of USE OF COMMUNICATION	Total Number of 3 (New 1) Weights
13	wf of ASSET TO THE NAVY*	wf of REPUTE
14	f of MANAGEMENT FUNCTIONS	f of USE OF COMMUNICATION
15	wf of STAFFING	f of INITIATIVE*

* Also selected by the stepwise discriminant analysis program for this section in the cross validation BT subsample.

TABLE 37

VARIABLES SELECTED BY THE STEPWISE DISCRIMINANT ANALYSIS PROGRAM AT STEPS 1 THROUGH 15 FOR THE GENERALIZATION SAMPLE

Step	*Evaluation Section*	*Justification Section*
1	Total Number of 2 (New -1) Weights	Total Number of Index Terms Used
2	Total Number of 5 (New 3) Weights	f of COOPERATION
3	wf of POTENTIAL	wf of STAFFING
4	f of COMMUNICATION	wf of COMMUNICATION
5	wf of MANAGEMENT FUNCTIONS	wf of PLANNING
6	f of RELIABILITY AND DEPENDABILITY	wf of POTENTIAL
7	f of INTELLECTUAL FUNCTIONING	f of PRODUCTIVITY AND ACHIEVEMENT
8	wf of SERVICE MOTIVATION	wf of PRODUCTIVITY AND ACHIEVEMENT
9	f of ORGANIZATION	Sum of Variables 31 through 59
10	f of RESPONSIVENESS	wf of GROOMING AND ATTIRE
11	wf of INITIATIVE	f of ENDURANCE
12	wf of PLANNING	f of REPUTE
13	wf of RELIABILITY AND DEPENDABILITY	wf of INTELLECTUAL FUNCTIONING
14	f of REPRESENTATION	f of RESPONSIVENESS
15	wf of STAFFING	wf of REPUTE

TABLE 38

VARIABLES SELECTED BY THE STEPWISE DISCRIMINANT ANALYSIS PROGRAM AT STEPS 1 THROUGH 15 FOR THE GENERALIZATION CS's

Step	*Evaluation Section*	*Justification Section*
1	wf of CONTROLLING	Total Number of Index Terms Used
2	wf of ASSET TO THE NAVY	f of PROFESSIONALISM
3	f of MANAGEMENT FUNCTIONS	f of INITIATIVE
4	wf of SKILLS AND ABILITIES	wf of COMMUNICATION
5	Total Number of Index Terms Used	wf of REPRESENTATION
6	f of ENDURANCE	wf of COOPERATION
7	Sum of Variables 31 through 59	f of CONTROLLING
8	wf of ORGANIZATION	f of POTENTIAL
9	wf of POTENTIAL	f of PRODUCTIVITY AND ACHIEVEMENT
10	wf of PLANNING	wf of SKILLS AND ABILITIES
11	f of SERVICE MOTIVATION	wf of PLANNING
12	f of PLANNING	Total Number of Words in Text
13	Total Number of 3 (New 1) Weights	wf of PROFESSIONALISM
14	f of LEADERSHIP AND DIRECTING	f of SKILLS AND ABILITIES
15	f of INITIATIVE	f of RELIABILITY AND DEPENDABILITY

TABLE 39

VARIABLES SELECTED BY THE STEPWISE DISCRIMINANT ANALYSIS PROGRAM AT STEPS 1 THROUGH 15 FOR THE GENERALIZATION RM's

Step	*Evaluation Section*	*Justification Section*
1	Total Number of 2 (New -1) Weights	Total Number of Index Terms Used
2	wf of AWARDS AND PUNISHMENT	Sum of Variables 31 through 59
3	wf of POTENTIAL	wf of PRODUCTIVITY AND ACHIEVEMENT
4	wf of MANAGEMENT FUNCTIONS	f of PRODUCTIVITY AND ACHIEVEMENT
5	Total Number of 5 (New 3) Weights	f of COOPERATION
6	f of RELIABILITY AND DEPENDABILITY	wf of GROOMING AND ATTIRE
7	f of COMMUNICATION	wf of STAFFING
8	f of POTENTIAL	wf of ENDURANCE
9	wf of REPUTE	f of STAFFING
10	f of REPUTE	wf of PLANNING
11	f of INTELLECTUAL FUNCTIONING	Total Number of 4 (New 2) Weights
12	f of RESPONSIVENESS	f of POTENTIAL
13	wf of RESPONSIVENESS	f of INITIATIVE
14	wf of SERVICE MOTIVATION	wf of TECHNICAL SKILLS
15	wf of PRODUCTIVITY AND ACHIEVEMENT	f of REPUTE

Another important finding is that better classification was achieved when each of the four occupational ratings studied in this research project was considered individually. In addition to Total Number of 5 (New 3) Weights, Total Number of 2 (New -1) Weights, and Total Number of Index Terms Used, a number of specific index terms among the first five selected should be called out as potential key variables in discriminating between superior chief petty officers and their slightly less qualified colleagues. For the cross validation AT's these variables were COMMUNICATION; COOPERATION; LEADERSHIP AND DIRECTING; PRODUCTIVITY AND ACHIEVEMENT; TECHNICAL SKILLS; and SKILLS AND ABILITIES. For the pilot study AT's these variables were AWARDS AND PUNISHMENT; COMMUNICATION; CONDUCT, INTEGRITY, AND PRIDE; INTELLECTUAL FUNCTIONING; and PRODUCTIVITY AND ACHIEVEMENT. The potential key variables for the cross validation BT's were CONDUCT, INTEGRITY, AND PRIDE; COOPERATION; LEADERSHIP AND DIRECTING; PRODUCTIVITY AND ACHIEVEMENT; and RESOURCEFULNESS. For the pilot study BT's these variables were AWARDS AND PUNISHMENT; LEADERSHIP AND DIRECTING; PRODUCTIVITY AND ACHIEVEMENT; PROFESSIONALISM; REPUTE; and RESPONSIVENESS. The potential key variables for the CS's were ASSET TO THE NAVY; COMMUNICATION; CONTROLLING; INITIATIVE; MANAGEMENT FUNCTIONS; PROFESSIONALISM; REPRESENTATION; and SKILLS AND ABILITIES. For the RM's these variables were AWARDS AND PUNISHMENT; COOPERATION; MANAGEMENT FUNCTIONS; POTENTIAL; and PRODUCTIVITY AND ACHIEVEMENT. These same specific index terms were also the variables achieving statistical significance beyond the .001 level of probability in the Mann-Whitney U test as well as the *t* test of mean difference for the comparison on the cross validation and generalization samples between the Middle and Upper criterion groups, the most difficult discrimination to be made between any two of the three criterion groups (see Tables 20 to 23).

Ten of the 29 index terms do not appear to lend as much assistance in the discrimination task as the key variables cited above. These less useful terms are the following: DRIVE; ENDURANCE; FLEXIBILITY; GROOMING AND ATTIRE; ORGANIZATION; PLANNING; RELIABILITY AND DEPENDABILITY; SERVICE MOTIVATION; STAFFING; and USE OF COMMUNICATION. However, all but two of these ten terms were selected as one of the sixth to the tenth variables in at least one of the stepwise discriminant analyses performed. The two exceptions were FLEXIBILITY and USE OF COMMUNICATION, the least useful terms used in this study. These findings suggest that a smaller number of dimensions than the full complement of 67 quantitative variables derived from the indexing procedure can be used to identify superlative CPO's whose superior performance recommends them as candidates for promotion to a higher level of responsibility.

SECTION 5. RELIABILITY STUDY

A comprehensive reliability study was conducted whose objectives were two-fold: (1) to determine the level of agreement among several individuals all of whom independently would perform a content analysis of the same corpus of Evaluation Reports, and (2) to investigate if nonresearchers could be trained successfully to apply the complex content analysis methodology developed in the pilot study.

A set of 48 Evaluation Reports was selected by the Navy Personnel Research and Development Center, representing a cross section of the kinds of reports included in the overall experimental design for the cross validation and generalization samples. In each of these 48 Evaluation Reports the evaluation section was separated from the justification section so that the narrative comments for each section were not considered together. This resulted in a group of 96 randomized pieces of narrative text to be indexed in the reliability study. To each of these 96 pieces of narrative text was appended the corresponding sections 4A and 4B of the Evaluation Report form. These two sections provide a description of the ratee's primary and collateral duties and should be read as background information before beginning to index the narrative text. Each of these 96 *minidocuments* was assigned a 4-digit identification number by NPRDC, Xeroxed in multiple copies, and sent to R-K Research and System Design to be used as the data base in the reliability study.

Four individuals participated in the reliability study: (1) the experienced indexer who also indexed the pilot study sample, the cross validation sample, and the generalization sample; (2) the principal investigator; (3) an inexperienced indexer (inexperienced indexer A) with two years of college in the liberal arts; and (4) another inexperienced indexer (inexperienced indexer B) with executive secretary experience. To this end a training manual was prepared by the experienced indexer and the principal investigator to assist the two neophyte indexers in understanding their assignment. The training manual in its entirety is included in this report as Appendix A. The version of the training manual shown in Appendix A is not the original version that was used to train the four reliability indexers, but rather is an updated version that includes voluminous examples of how to handle difficult indexing decisions and which also attempt to eliminate areas of confusion brought to light in analyzing the results of the reliability study.

Six intensive training sessions were conducted by the experienced indexer in order to try to bring all four indexers up to a common level of expertise before beginning the actual study. Obviously, this objective could only be met partially in view of the varying educational backgrounds of the four reliability indexers and their different levels of previous exposure to the indexing dictionary. The study itself proved to be a traumatic experience for the three reliability indexers who had not spent the past year doing the actual indexing of the cross validation and generalization samples, probably because they were still in the early stages of their learning curves. The task given to each participant was extremely difficult and can be likened to a take-home, open-book final examination without a time limit. However, given the experience of participating in the study, all four of the reliability indexers now feel that they are better qualified to function as regular indexers and could perform this assignment in a consistent manner.

When all four reliability indexers had completed indexing the 96 pieces of narrative text, their indexing decisions were recorded side by side on work sheets for each segment of narrative text indexed. These work sheets provided the data base for computing agreement statistics. In all of the statistical computations reported subsequently in this section, assignment of the index terms was considered to be a separate intellectual task from assigning the corresponding weights based on the modifying adjectives and adverbs. There is good justification for analyzing the reliability study results in these two contexts. When an indexer studied a segment of narrative text, the first step was to select an appropriate index term or terms from among the 29 possibilities that best described the substantive content of the text. Once the indexer had completed this first phase of the content analysis, then the segment of narrative text was rescanned to identify the adjectives and adverbs that defined the numerical weight to be assigned to each index term chosen. Considering these judgments as two sequential decision processes also made the results of the reliability study more amenable to statistical analysis as will be shown in the subsequent discussion.

As early as 1960 Cohen, in introducing a new agreement statistic called kappa, pointed out that for most problems in nominal scale agreement between two judges or decision makers, many investigators compute a contingency chi square as a test of the hypothesis of chance agreement, and some investigators have gone on to compute the contingency coefficient, C, as a measure of degree of agreement.[20] However, Cohen concluded that the use of chi square (χ^2), and therefore, the C which is based on it for the evaluation of agreement is indefensible. When applied to a contingency table, χ^2 tests the null hypothesis with regard to *association*, not agreement. Therefore, χ^2 and C are inappropriate statistics for measuring agreement since they will be inflated quite impartially by any departure from chance association, *either disagreement or agreement*. In order to remedy this situation, Cohen suggested a new coefficient, kappa, to measure the degree of agreement in nominal scales, and to provide means for testing hypotheses and setting confidence limits for this coefficient.

Quoting from Cohen's 1960 article [20, pp. 39-40], "...for any problem in nominal scale agreement between two judges, there are only two relevant quantities:

p_o = the proportion of units in which the judges agreed

p_c = the proportion of units for which agreement is expected by chance.

The test of agreement comes then with regard to the $1 - p_c$ of the units for which the hypothesis of no association would predict disagreement between the judges. This term will serve as the denominator.

"To the extent to which nonchance factors are operating in the direction of agreement, p_o will exceed p_c; their difference, $p_o - p_c$, represents the proportion of the cases in which beyond-chance agreement occurred and is the numerator of the coefficient.

"The coefficient κ is simply the proportion of chance-expected disagreements which do not occur, or alternatively, it is the proportion of agreement *after* chance agreement is removed from consideration:

$$\kappa = \frac{p_o - p_c}{1 - p_c} \quad ."$$

The significance of an obtained κ is determined by dividing κ by σ_{κ_o} where $\sigma_{\kappa_o} = \sqrt{\frac{p_c}{N(1 - p_c)}}$. The resulting critical ratio is referred to the normal curve. However, Cohen has pointed out that it is generally of as little value to test κ for significance as it is for any other reliability coefficient ---to know merely that κ is beyond chance is trivial since one usually expects much more than this in the way of reliability in psychological measurement. However, the size of the critical ratio does provide some immediate feedback concerning the magnitude of the agreement achieved beyond the level expected by chance. Probably a more useful way to interpret the significance of an obtained κ is in terms of the maximum value of κ. The theoretical upper limit of κ is +1.00, but this limit can only be reached if the off-diagonal (disagreement) cells in the agreement matrix are all zero. This in turn demands that the marginal probabilities for each diagonal (agreement) cell must be identical. Perfect agreement between two judges is rarely achieved, and therefore, the marginal distributions in any agreement matrix are not identical. This means that in practice the upper limit of κ is never +1.00 but rather some lesser value. The maximum value of κ is set by the marginal distributions in any particular application of the kappa agreement statistic, and it can be calculated. A comparison of the obtained κ with its maximum upper limit computed from the marginal distributions provides the investigator with a more useful index of how closely the agreement level that was achieved between two judges approached the maximum level of agreement that was possible.

The kappa statistic was the measure of agreement used in analyzing the index terms assigned by the four reliability indexers. For each segment of narrative text, each indexer chose a term or terms from the list of 29 possibilities, or the decision was made that no term should be used. From a careful analysis of these indexing decisions for each pair of reliability indexers, six pairwise agreement matrices were constructed. These were 30 by 30 matrices, with the 29 index terms representing 29 of the 30 nominal categories and No Index Term Used representing the 30th nominal category. The pairwise indexing decisions for each segment of narrative text analyzed across all 96 documents in the reliability study data base were tabulated into the appropriate cell of the agreement matrix for the particular pair of indexers being compared. The 30 diagonal cells of the agreement matrix denote agreement between the two indexers in assigning index terms; all of the off-diagonal elements in the matrix represent instances in which the two indexers disagreed in their selection of terms. The total number of entries in these six matrices varied slightly among the six pairwise comparisons between the four reliability indexers, but in all instances they were very large, ranging from 1,230 tallies to 1,389 tallies. Consequently, the size of the reliability study data base can be considered to be large enough to provide a stable measure of the level of agreement achieved in performing this complex intellectual task.

Table 40 shows the results of the kappa analysis of the six pairwise comparisons between the four reliability indexers in selecting index terms for

TABLE 40

RESULTS OF THE KAPPA ANALYSIS FOR THE SIX PAIRWISE COMPARISONS BETWEEN THE FOUR RELIABILITY INDEXERS IN SELECTING INDEX TERMS FOR THE ENTIRE RELIABILITY STUDY DATA BASE

Pairwise Comparisons Between Each Pair of Reliability Indexers	κ	σ_{κ_o}	z^*	κ_{max}
The experienced indexer vs. the principal investigator	.73	.0065	111.82	.90
The experienced indexer vs. inexperienced indexer A	.88	.0072	123.49	.97
The experienced indexer vs. inexperienced indexer B	.72	.0068	106.24	.90
The principal investigator vs. inexperienced indexer A	.73	.0065	111.82	.89
The principal investigator vs. inexperienced indexer B	.71	.0064	111.06	.90
Inexperienced indexer A vs. inexperienced indexer B	.78	.0068	115.56	.92

* A z of 3.29 is significant at the .001 level of probability. Therefore, all of the z values reported in this table are extremely significant and lead to rejection of the null hypothesis that the obtained κ does not exceed the chance level of agreement.

the entire reliability study data base. The second column in this table shows the value of κ; the third column shows the standard error of κ; and the fourth column lists the normal deviate, z, obtained by dividing κ by its standard error. All of the z values are very large, and consequently, extremely significant, indicating that in all six comparisons the null hypothesis that the obtained κ does not exceed the chance level of agreement can be rejected. The last column in Table 40 provides the maximum possible value of kappa for each of the six pairwise comparisons. These values can be used as an upper limit for comparing the level of agreement actually achieved with the maximum level possible given the marginal distributions. Thus, in the first comparison between the experienced indexer and the principal investigator, the κ obtained was .73 compared to a possible maximum value of .90. The best agreement in selecting index terms was obtained between the experienced indexer and inexperienced indexer A, a κ of .88 where the maximum κ possible in this instance was .97. This is a heartening finding, suggesting that an individual without a research background in only six training sessions can be trained to apply

the complex content analysis methodology developed in this research project. With additional training and further experience, this individual could be expected to apply these indexing skills in an even more consistent manner.

The other values of κ in Table 40 are not as large as the one for the comparison between the experienced indexer and inexperienced indexer A. However, they all range between .71 and .78, with .71 probably representing the lower limit of reliability achievable in a study of this kind. With additional training in those areas where there was confusion in the minds of the reliability indexers as they wrestled with the task of selecting the most appropriate index term, the expectation would be that better agreement could be achieved among these same four individuals if they were to replicate this experiment. All four reliability indexers have expressed their concordance with this expectation.

A careful perusal of the six agreement matrices from which the statistics presented in Table 40 were derived was very instructive. Most of the off-diagonal cells were empty. When there were tallies, they were sporadic and scattered with only one or two tallies appearing in an occasional cell off the diagonal. However, two areas of confusion were prominently displayed in these six matrices. One minor area of confusion was between PRODUCTIVITY AND ACHIEVEMENT and MANAGEMENT FUNCTIONS, although this confusion could not be considered to be extensive. The revision of the training manual included in Appendix A has attempted to clarify the points of confusion between these two index terms.

The other area of confusion is major and deserves special comment. In the six training sessions it was pointed out that certain statements in the narrative text describe the job duties and the qualifications for the position that the ratee occupies rather than the ratee's actual qualifications for and performance in this position. When such a factual statement of the requirements for the position were included in the narrative text, it was *not* to be indexed since it told nothing about the ratee's qualifications and performance per se. Therefore, it was not considered to be an evaluative statement. Unambiguous examples of this type of narrative statement taken from the training material are the following:

> *Example 1.* As the Quality Control Chief he is responsible for the continuous updating of a number of SOP's as well as implementing the new ones that are required.
>
> *Example 2.* Chief XX is presently serving in an RM1 billet. This is because he made Chief Petty Officer in November 1970.

However, when confronted with indexing the reliability study data base itself, this indexing convention was frequently misconstrued by the three reliability indexers who had not had the extensive indexing experience that the experienced indexer had had. The following two examples illustrate where the confusion arose.

> *Example 3.* Ratee's assignment demands particularly delicate tact, due to his working among civilians upon whom he must depend for cooperation.

The experienced indexer did not assign any index terms to this sentence, concluding that it was a statement defining the requirements of the job position rather than how the ratee performed in the job. All of the other three reliability indexers inferred that the individual evaluating the ratee was actually referring to the fact that the ratee possessed tact in interfacing with the civilian community. The principal investigator used the terms CONDUCT, INTEGRITY, AND PRIDE and REPRESENTATION to index this sentence, as did inexperienced indexer B. Inexperienced indexer ' used only CONDUCT, INTEGRITY, AND PRIDE. There was substantial agreement among the three less experienced reliability indexers, but none of them matched the indexing decision of the experienced indexer that they were trying to emulate. Another example of this type of disagreement is the following:

> *Example 4.* Additionally, he must supply satisfactory solutions to the many problems of the Company Commanders in connection with these services.

Again the experienced indexer considered this comment to be a statement defining the requirements of the job position whereas the other three reliability indexers attributed the skill required to the ratee. The principal investigator and inexperienced indexer B called the skill CONTROLLING; inexperienced indexer A called it PLANNING.

Disagreement in which the experienced indexer did not assign any index terms and the other three reliability indexers did assign one or more terms is very noticeable in studying the three agreement matrices in which the three less experienced reliability indexers are compared with the experienced indexer. This type of disagreement also occurred in the three comparisons among the less experienced indexers, emphasizing the general confusion that existed in how to handle statements of the type shown in Examples 3 and 4 above. Additional training aimed at clarifying this area of confusion most likely would markedly reduce this type of disagreement and raise the magnitude of κ.

Analysis of the level of agreement among the four reliability indexers in assigning numerical weights to each index term selected, based on the modifying adjectives and adverbs, was performed differently than the analysis of the level of agreement in selecting the index terms themselves. Selection of the index terms in this reliability study constituted a nominal scale whereas assignment of a numerical weight to each index term selected was an indexing decision involving an ordinal scale. Therefore, more powerful agreement statistics could be employed. Since numerical weights on a scale from 1 to 5 (New -2 to New 3) were assigned to each index term selected, it was possible to compute a product moment correlation coefficient between each pair of reliability indexers. The new transformed weights were used in these computations since this ordinal scale provided a more justifiable way of measuring the situation in which one indexer did not select an index term but the other indexer did (see Table 9).

In addition to computing these six product moment correlation coefficients, another agreement statistic, weighted kappa, was also calculated in order to determine if it agreed with the results of the correlational analysis. In 1968 Cohen published another article generalizing the kappa statistic to the situation in which disagreements of varying gravity can be weighted accordingly.[21]

Application of weighted kappa to quantifying the level of agreement in psychiatric diagnosis was also shown by Cohen and his colleagues.[22]

Weighted kappa is an agreement statistic corrected for chance agreement, to be used when different kinds of disagreement are to be differentially weighted in the agreement index. The desired weighting is accomplished by an a priori assignment of weights to the r by c cells of the agreement matrix, and must be done very carefully because the weights assigned are an integral part of how agreement is defined, and therefore, how it is measured with weighted kappa (κ_ω). Table 41 shows the weighting algorithm that was used in computing κ_ω for assessing the level of agreement in assigning numerical weights, based on the modifying adjectives and adverbs, to the index terms selected in the reliability study. The first step in computing κ_ω was to construct a 6 by 6 agreement matrix between each pair of reliability indexers that encompassed all of the pairwise numerical weights that were assigned to index terms based on their modifying adjectives and adverbs. These numerical weights were tabulated in the agreement matrix across all 96 documents in the reliability study data base. Using the first row of Table 41 as an example, if Reliability Indexer I and Reliability Indexer II both had assigned a numerical weight of 3 to the index term that they had selected, it represented perfect agreement in their interpretation of the superlativeness of the adjective or adverb modifying the index term. Therefore, the 3,3 cell was given an a priori weight of zero in computing κ_ω since perfect agreement should receive no penalty. If one indexer had assigned a numerical weight of 3 to the index term selected

TABLE 41

THE WEIGHTING ALGORITHM USED IN COMPUTING WEIGHTED KAPPA FOR ASSESSING THE LEVEL OF AGREEMENT IN ASSIGNING NUMERICAL WEIGHTS TO THE INDEX TERMS SELECTED IN THE RELIABILITY STUDY

		RELIABILITY INDEXER I Index Weights					
		3	2	1	0	-1	-2
RELIABILITY INDEXER II Index Weights	3	0	1	2	3	4	5
	2	1	0	1	2	3	4
	1	2	1	0	1	2	3
	0	3	2	1	0	1	2
	-1	4	3	2	1	0	1
	-2	5	4	3	2	1	0

and the other indexer had assigned a numerical weight of 2, they only disagreed by one position on the ordinal scale, and therefore, the 3,2 cells were given an a priori weight of one in computing κ_ω, penalizing this mild disagreement only slightly. In the extreme case, if one indexer had assigned a numerical weight of 3 to the index term selected and the other indexer had assigned a numerical weight of -2, they disagreed by five positions on the ordinal scale, and therefore, the 3,-2 cells were given an a priori weight of five in computing κ_ω, penalizing this extreme disagreement the maximum possible. This same logic was applied in determining the weights to be used in computing κ_ω throughout the remainder of the matrix. All of the diagonal cells were given a weight of zero since in no case should perfect agreement be penalized. All cells immediately off the diagonal were penalized by a weight of one; those cells slightly farther off the diagonal were penalized by a weight of two; and so on out to a penalty weight of five for the case of worst disagreement.

The formula for computing κ_ω is

$$\kappa_\omega = 1 - \frac{\Sigma w_{ij} p_{oij}}{\Sigma w_{ij} p_{cij}}$$

where w_{ij} = a priori weight in cell ij
p_{oij} = observed proportion in cell ij
p_{cij} = chance proportion in cell ij

The standard error of κ_ω is equal to

$$\sigma_{\kappa_{\omega o}} = \sqrt{\frac{\Sigma w_{ij}^2 p_{cij} - (\Sigma w_{ij} p_{cij})^2}{N(\Sigma w_{ij} p_{cij})^2}}$$

A significance test of κ_ω, that is, a test of H_0: Population κ_ω - Observed $\kappa_\omega = 0$, is accomplished by evaluating the normal curve deviate

$$z = \frac{\kappa_\omega}{\sigma_{\kappa_{\omega o}}}$$

Table 42 shows the results of the correlational analysis and the weighted kappa analysis for the six pairwise comparisons between the four reliability indexers in assigning numerical weights to each index term selected, based on the modifying adjectives and adverbs, for the entire reliability study data base. The results of the correlational analysis are shown first in Table 42. The best agreement in assigning numerical weights to each index term selected was obtained between the experienced indexer and inexperienced indexer A, a correlation coefficient of .80. The best agreement in selecting index terms themselves was also achieved between this same pair of indexers (see Table 40).

TABLE 42

RESULTS OF THE CORRELATIONAL ANALYSIS AND THE WEIGHTED KAPPA ANALYSIS FOR THE SIX PAIRWISE COMPARISONS BETWEEN THE FOUR RELIABILITY INDEXERS IN ASSIGNING NUMERICAL WEIGHTS TO EACH INDEX TERM SELECTED FOR THE ENTIRE RELIABILITY STUDY DATA BASE

Pairwise Comparisons Between Each Pair of Reliability Indexers	Product Moment Correlation r_{pm} *	Weighted Kappa		
		κ_{ω} **	$\sigma_{\kappa_{\omega o}}$	z ***
The experienced indexer vs. the principal investigator	.67	.63(.73)	.0457	13.85
The experienced indexer vs. inexperienced indexer A	.80	.78(.82)	.0539	14.41
The experienced indexer vs. inexperienced indexer B	.64	.60(.68)	.0474	12.61
The principal investigator vs. inexperienced indexer A	.70	.64	.0465	13.78
The principal investigator vs. inexperienced indexer B	.64	.61	.0449	13.55
Inexperienced indexer A vs. inexperienced indexer B	.69	.66	.0494	13.32

* A product moment correlation coefficient of .104, based on an N of 1000, is significantly different from zero at the .001 level of probability.

** The values of κ_{ω} shown in parentheses take into account only those instances in which both indexers selected an index term and exclude those instances in which the experienced indexer did not select an index term but the other less experienced indexer did.

*** A z of 3.29 is significant at the .001 level of probability. Therefore, all of the z values reported in this table are highly significant and lead to rejection of the null hypothesis that the obtained κ_{ω} does not exceed the chance level of agreement.

These findings corroborate each other in suggesting that an individual without a research background in only six training sessions can be taught not only how to select the most appropriate index terms but also how to consistently assign weights to these terms based on the modifying adjectives and adverbs. The other correlations reported in Table 42 are lower, but none is less than .64. All six correlation coefficients are significantly different from zero well beyond the .001 level of probability.

On the weighted kappa side of Table 42 the first column shows the value of κ_ω; the second column shows the standard error of κ_ω; and the last column lists the normal deviate, z, obtained by dividing κ_ω by its standard error. All of the z values are large, and consequently, highly significant, indicating that in all six comparisons the null hypothesis that the obtained κ_ω does not exceed the chance level of agreement can be rejected. As was expected, the κ_ω values are similar in magnitude to their correlation coefficient counterparts. Again, the best agreement as measured by weighted kappa was obtained between the experienced indexer and inexperienced indexer A, a κ_ω of .78. The three values shown in parentheses after the first three κ_ω's listed in Table 42 were computed in order to determine the level of agreement achieved if those instances were excluded where the experienced indexer did not select an index term, and consequently, did not assign a numerical weight but the other less experienced indexer did select an index term and assigned a weight to it. This proved to be the area of major confusion in executing the reliability study as pointed out earlier in this section in discussing the results of the kappa analysis of level of agreement in selecting the index terms themselves. Instances where the experienced indexer did not assign a weight but the other indexer did form one row in the weighted kappa computational matrix. This row can be omitted from the computation, resulting in a value for κ_ω that ignores this major area of confusion and takes into account only those instances where both indexers selected an index term, and consequently, assigned a weight. The gain in the value of κ_ω is not very large for the comparison between the experienced indexer and inexperienced indexer A when κ_ω was recomputed in this fashion. However, the gain was quite substantial in the other comparisons between the experienced indexer and the principal investigator and between the experienced indexer and inexperienced indexer B. This suggests that with additional training to clarify this area of confusion and with more indexing experience, the level of agreement among the four reliability indexers could possibly be raised to a value of .80 to .85 as measured by any of the three agreement statistics employed in this study. However, values in the .90's are the ultimate objective.

In conclusion, it might be of interest to point out that the initial expectation in beginning this reliability study was that it would be extremely difficult to train nonresearch-oriented individuals to consistently index the narrative sections of Evaluation Report forms using the complex content analysis methodology that had been developed in the pilot study. The surprising result is that in only six training sessions a quite respectable level of agreement was achieved. Moreover, one of the inexperienced indexers showed a higher level of agreement with the experienced indexer than the principal investigator did, and the other inexperienced indexer agreed with the experienced indexer almost as well as the principal investigator. The intuitive feeling that the reliability indexers had after completing the reliability study was that the most difficult part of learning to index consistently was over and that with additional practice and some review training sessions they could improve their indexing skill.

SECTION 6. FUTURE AREAS OF INVESTIGATION

In the subsequent 10-month period of this research project beginning March 1, 1973 and concluding December 31, 1973, additional studies of the 225 Evaluation Reports in the pilot study sample and the 444 Evaluation Reports in the cross validation and generalization samples will be carried out in order to devise valid, short-cut methods of indexing the narrative content of these reports based on the more lengthy and complex content analysis methodology that has already been developed. The issues of trainability and reliability in indexing this type of narrative text will be studied further. The following specific tasks are being undertaken:

A. Short-cut Indexing Methods

Efforts are in progress to develop valid, short-cut methods for indexing the narrative content of Evaluation Reports by capitalizing on the findings resulting from the various stepwise discriminant analyses that have been performed. The variables that are entered into the discriminant function at the first five to ten steps in the analysis appear to be the key variables in discriminating among the three criterion groups. These variables then form one target for study, i.e., how to extract this differentiating information from the narrative text in a simple but reliable fashion that will achieve as good or nearly as good classification accuracy as the longer, more complex indexing methodology. This approach is being used to develop optimum streamlined classification algorithms for all four ratings represented in the research data base studied thus far, i.e., AT's, BT's, CS's, and RM's.

In addition, the literature is being searched for work that may be relevant to the objective of developing valid, short-cut methods for indexing the narrative content of Evaluation Reports.

B. Extension of the Inter-indexer Reliability Study

An extension of the reliability study is being conducted using four reliability indexers. Two of the original reliability indexers (inexperienced indexers A and B), after refresher training using the updated version of the training manual, will independently index a different set of 48 Evaluation Reports than that used in the original reliability study and their indexing decisions will be compared to the judgments of the experienced indexer. The level of agreement between each of the inexperienced indexers and the experienced indexer after a second exposure to reliability indexing will be calculated to determine if the level of agreement can be improved with additional training and experience. In addition, two new reliability indexers will be trained, and they will independently index the original set of 48 Evaluation Reports. Their indexing decisions will be compared to those of the experienced indexer to determine if the level of agreement achieved is comparable to that found in the first reliability study.

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APPENDIX A

TRAINING MANUAL FOR INDEXING THE NARRATIVE SECTIONS OF NAVY PERFORMANCE EVALUATIONS FOR SENIOR ENLISTED PERSONNEL

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PURPOSE

The purpose of this manual is to train nonresearchers in the content analysis techniques developed in a personnel research study to analyze the narrative sections of Navy performance evaluations for senior enlisted personnel in pay grades E-7 (Chief Petty Officer), E-8 (Senior Chief Petty Officer), and E-9 (Master Chief Petty Officer).[1] The objective of this study was to provide personnel decision makers (e.g., selection boards and detailers) with a standardized way of detecting valid and discriminating indicators of on-job performance in narrative evaluation comments.

BACKGROUND

Section 19, Evaluation Section, of Evaluation Report Form NAVPERS 1616/8* is designed to permit the rater (evaluator) to *compare* the ratee with all others of his rate known to the rater on 13 specific aspects of on-job performance as well as to make an overall comparative evaluation of the ratee's performance (see Figure A-1). Ratings are made by marking the column of the rating distribution into which the rater evaluates that the ratee falls (for example, top 1% for superlative performance). Section 19R of this form provides space for the rater to write narrative evaluation comments to describe further the ratee's performance and qualifications. Section 19S of this form provides space for the rater to write narrative justification comments and is required to support any marks assigned to the top or bottom 10, 5, or 1% columns of Section 19.

Sections 19R and 19S are referred to as the narrative text of the Evaluation Report since they are the only portions of the report where the rater uses his own words to assess the on-job performance of the senior enlisted man that he is rating. Thus far the narrative evaluation and justification sections of the Evaluation Report have not been exploited systematically in making personnel decisions because narrative text tends to resist objective analysis and interpretation. However, results from a content analysis study of the narrative text[1] strongly suggest that there are stable differences among the performance characteristics of chief petty officers that are reflected in the narrative statements written about them by evaluators. Furthermore, these differences are both identifiable and quantifiable. The remainder of this manual presents a set of explicit and detailed guidelines for identifying, indexing or labeling, and quantifying (by means of a weighting scale) the concepts and ideas represented in the narrative text of Navy performance evaluations for senior enlisted personnel. These quantified labels have been shown to discriminate or differentiate between superior ratees and their slightly less qualified colleagues.

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* This form subsequently has been replaced by another form that can be scanned by an optical character reader; however, the content of the two forms is essentially the same.

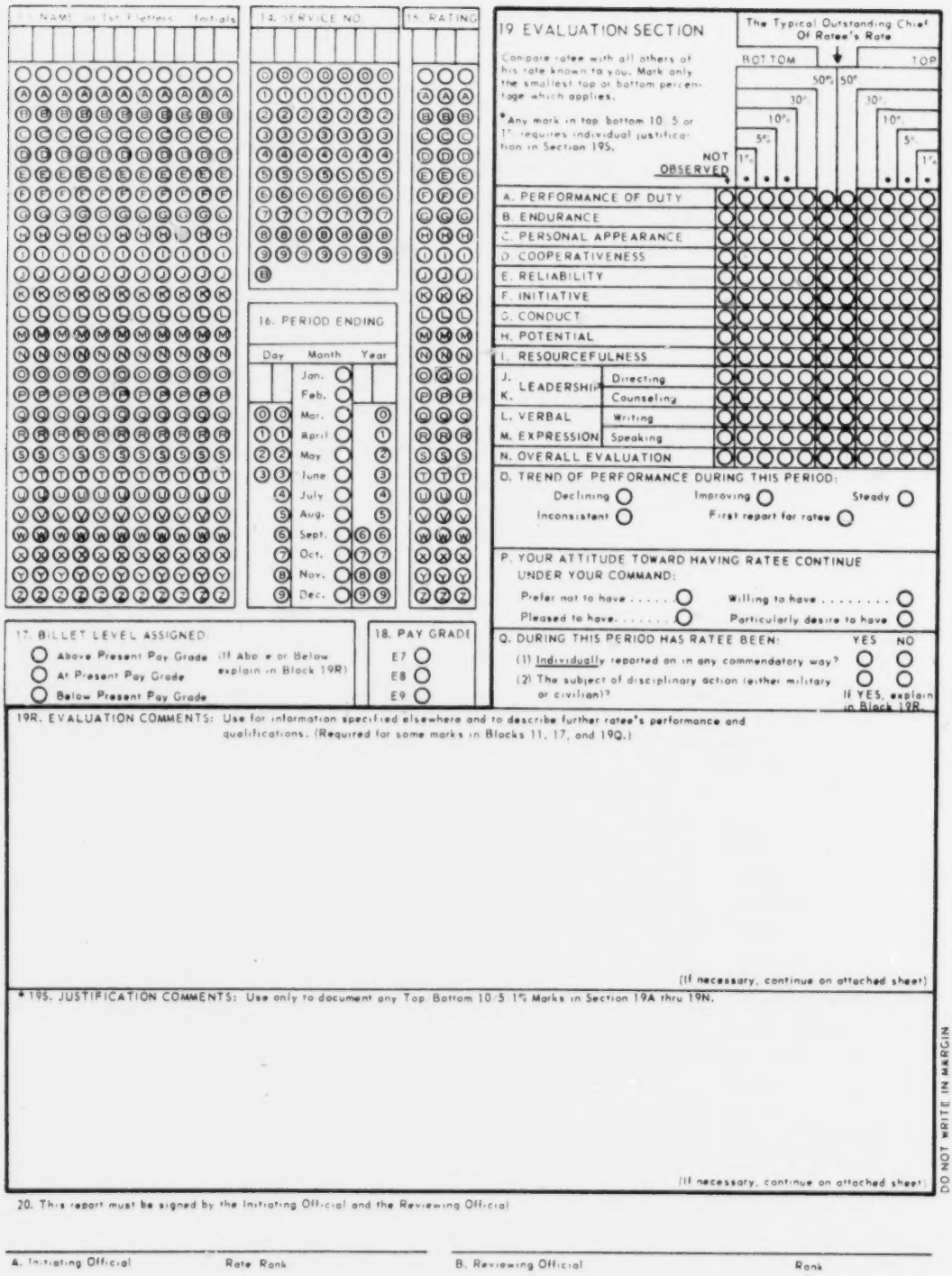

Figure A-1. Evaluation Report Form NAVPERS 1616/8 (a 75 percent photo reduction of the original form)

RATEES AS MANAGERS

Senior enlisted personnel in pay grades E-7/8/9 are all managers in the sense that they all are responsible for the supervision of other enlisted men whose work they direct. Therefore, the unifying focus in this manual is on the assessment of a chief petty officer (ratee) as a manager. The operations of a manager may differ from one organization or from one institutional setting to another; however, the functions of a manager are common to all. The task of the manager is one of selecting goals and designing and maintaining an environment that makes possible the performance of individuals working together in a group to attain these goals. Chief petty officers in pay grades E-7/8/9 are junior level managers, and as such, they must perform technical as well as managerial functions. Table A-1 shows a hierarchy of 29 index terms or labels that can be used to characterize the on-job managerial performance of chief petty officers. These index terms are the terms to be imposed onto the narrative text to give it objective structure and to systematize the way that this text is analyzed and interpreted. Note in Table A-1 that the 29 index terms are divided into three sections. The first section contains seven specific MANAGEMENT FUNCTIONS that many authorities on management practice agree are the characteristic *duties* of all managers.[2,3,4,5,6] Although some authorities believe that there are more, less, or different functions performed by managers, these seven functions were selected because they are representative of the duties that chief petty officers actually perform.

The second section of Table A-1 contains index terms for 13 specific SKILLS AND ABILITIES considered to be important by Navy supervisory personnel in performing effectively as a chief petty officer. While some authorities on management practice consider making a judgment about whether or not an individual possesses a skill, quality, or ability to be a subjective process, Navy evaluators do repeatedly call out these specific qualities in their narrative evaluations because many of these qualities are dimensions on which they rate the ratee in Section 19 of the Evaluation Report. The first section of Table A-1---MANAGEMENT FUNCTIONS---deals with how a ratee performs his managerial functions and is result oriented, while the second section---SKILLS AND ABILITIES---contains index terms that relate to an individual's characteristics and qualities which, if used, may help him achieve good results.

The third section of Table A-1---PRODUCTIVITY AND ACHIEVEMENT---is the most result-oriented section of the hierarchy. Here are included the measures of overall performance. DRIVE and SERVICE MOTIVATION (a specific type of drive) are included in this section since drive is considered to contribute to successful performance. POTENTIAL also is included here since potential is a measure of future performance. AWARDS AND PUNISHMENT, REPUTE, and ASSET TO THE NAVY represent acknowledgments of an individual's performance, either positive or negative acknowledgment.

QUANTIFYING THE INDEX TERMS

It is not enough to simply label a narrative statement with the most appropriate index term since the statement may have been a highly positive, quite positive, neutral, quite negative, or highly negative one. For example,

TABLE A-1

HIERARCHY OF INDEX TERMS

MANAGEMENT FUNCTIONS
- CONTROLLING
- LEADERSHIP AND DIRECTING
- ORGANIZATION
- PLANNING
- REPRESENTATION
- STAFFING
- USE OF COMMUNICATION

SKILLS AND ABILITIES
- COMMUNICATION
- CONDUCT, INTEGRITY, AND PRIDE
- COOPERATION
- ENDURANCE
- FLEXIBILITY
- GROOMING AND ATTIRE
- INITIATIVE
- INTELLECTUAL FUNCTIONING
- PROFESSIONALISM
- RELIABILITY AND DEPENDABILITY
- RESOURCEFULNESS
- RESPONSIVENESS
- TECHNICAL SKILLS

PRODUCTIVITY AND ACHIEVEMENT
- AWARDS AND PUNISHMENT
- DRIVE
  - SERVICE MOTIVATION
- POTENTIAL
- REPUTE
  - ASSET TO THE NAVY

in order to differentiate between the ratee who plans superbly and the ratee who plans inadequately, a weighting scale was devised to be applied to each index term that is used (see Table A-2). The weighting scale contains five numerical values ranging from 5, the positive end of the scale, to 1, the negative end of the scale. Under each numerical value in Table A-2 there are listed examples of adjectives or adverbs that may be used by the rater to describe a ratee's performance. These lists of words provide clues to the indexer as to which numerical value to assign to an index term. As a simple example, if the rater commented that the ratee was highly cooperative, this statement would be indexed as COOPERATION and assigned a weight of 4 since *highly* is listed as an example under numeral 4 in Table A-2.

However, in many cases the indexer will have to exercise his own judgment. Some of the words that will require such a judgment are the following: *abnormally*, *absolutely*, *all*, *always*, *consistently*, *constantly*, *fully*, *immeasurable*, *intense*, *no doubt*, *obvious*, *totally*, *unquestionably*, and *uppermost*. An indexer will encounter many more words than those enumerated above that will require good judgment in choosing the most appropriate weight to use. For example, consider the following statement: "He is always resourceful." This statement would be indexed as RESOURCEFULNESS 4, because the statement could have been worded in a stronger way. The rater could have said, "He is always fully resourceful." This stronger statement would have been indexed as RESOURCEFULNESS 5. The words *always* and *fully* in most cases indicate the use of a 4 on the weighting scale; yet in the above example where they appear together, the statement is made so strongly that a weight of 5 is the correct indexing decision. However, there are other 4-weighted modifiers that when used in combination still remain a 4, for example, *remarkably well* or *highly effective*, because the modifying phrase could have been worded even more strongly, for example, *extremely well* or *most effective*. It is important to remember when using the weighting scale that the indexer should ask himself, "Could this statement have been phrased in another way by the rater that would have made it a stronger or a weaker statement?" The indexing convention to be followed for the modifier *quite* is to consider it to have a positive connotation and to give it a weight of 4 as in the following example: "He has been quite resourceful in making do with available parts." RESOURCEFULNESS 4. However, there may be instances in which the indexer would assign a 2 weight to the modifier *quite* if the context was sufficiently negative to warrant it as in the following example: "His tendency to be quite overweight detracts from his overall appearance." GROOMING AND ATTIRE 2. Note that AWARDS AND PUNISHMENT is given either a 5 or a 1 weight since there is no degree of variance. Either the ratee was given an award or not, or was punished (disciplined) or not.

SPECIAL INDEXING CONSIDERATIONS

An alphabetical dictionary of the 29 index terms appears at the end of this discussion. For each term in the dictionary, a definition is given, examples of narrative text indexed with the term are cited, and usage rules to guide the indexer in choosing this term or another term are supplied. Careful study of the dictionary will instruct the new indexer in how index terms and their numerical weights should be assigned in order to ensure a systematic and objective application of the indexing procedures explained in this manual.

TABLE A-2
WEIGHTING SCALE

5 excellent	4 good	3 average	2 poor	1 poorest
superlative	comparative		comparative	superlative
best	better than most	average	not as good as most	worst

EXAMPLES

above reproach	above average	adequate	declining quality	bottom
beyond reproach	better	aptly	deficiency	least
boundless	commendable	capable	detrimental	lowest
exceptional	complete	competent	fair	
extra-ordinary	deep	generally	in need of	
extremely	definitely	moderate	insufficient	
finest	easily	satisfac-tory	lack of	
flawless	effective	sufficient-ly	lower than average	
greatest	efficient	usually	lowering of	
highest	eloquent		negatively	
ideal	eminent		spotty	
little to be desired	exceeds		unfortunate	
limitless	excels		unwisely	
maximum	exemplary		weak in	
most	expeditious		with the exception of	
never	experienced			
outstanding	expertise			
paramount	extensive			
perfect	favorable			
profound	great			
sterling	high/highly			
superb	immaculate			
superior	immensely			
surpassed by none	impeccable			
top/topnotch	impressive			
unimpeachable	innate			
unique	inspires			
unlimited	instills			
unmatched	invaluable			
utmost	keen			
without equal	laudable			
without exception	leading			
100%	marked			
	meticulously			
	model			
	much			
	noteworthy			
	particularly			
	rapidly			

4-good (Cont.)

rare
remarkable
significantly
skillful
smoothly
solid
strongly
surpassed
thorough
tremendous
truly
unstinting
valuable
vast
very

NOTE: AWARDS AND PUNISHMENT is assigned a weight of either 5 or 1.

Although some indexing examples may not always seem logical to the new indexer, each indexing decision has been meticulously and thoroughly considered. The examples presented in the alphabetic dictionary represent a distillation of two years' of indexing experience and constitute a self-instructional compilation of crucial indexing rules and conventions that the new indexer needs to know in depth in order to be able to index the narrative text of Evaluation Reports accurately and consistently.

There are several indexing considerations that should be kept in mind as they will assist the indexer in maintaining consistency and will help resolve indexing dilemmas. Sections 4A and 4B of Evaluation Report Form NAVPERS 1616/8 provide a description of the ratee's primary and collateral duties. These sections should be read as background information before beginning to index the narrative text. An example of these two sections is shown below:

4A. DESCRIPTION OF PRIMARY DUTIES DURING THIS REPORTING PERIOD

Ratee is assigned as supervisor of Intermediate Level Maintenance on communications, navigation, and radar systems installed in the EA-3B, EP-3B, and EC-121M aircraft.

4B. DESCRIPTION OF COLLATERAL DUTIES AND/OR SPECIAL ASSIGNMENTS DURING THIS REPORTING PERIOD

Ratee is assigned on a rotational basis as the Avionics Supervisor at the squadron detachment in Danang, RVN. He also stands Assistant Squadron Duty Officer watches.

Information about a ratee's job duties is needed when indexing because a statement about an individual's achievement may not be in terms of performing a managerial function but rather in terms of his overall performance. Consider the following statement from the narrative text: "Ratee's supervision of maintenance of the communication and radar systems has been outstanding." This statement would be indexed as PRODUCTIVITY AND ACHIEVEMENT 5 because it is an assessment of the ratee's overall job performance as a supervisor of intermediate-level maintenance rather than performance of the controlling function of maintaining equipment in order to assure accomplishment of plans.

Another consideration to keep in mind is that when a description of a job or job duties is included in the narrative text, this description is not indexed since it is a factual statement describing the qualifications needed to perform a specific job or the duties of that job. Therefore, the statement is about the job itself and not about the ratee. Even if such a statement is modified by adjectives or adverbs, it still is not indexed if it refers to how a job should be performed and not to how the ratee actually performs a job. As an illustration of this convention, if planning is mentioned as one of the ratee's duties, this is a factual statement since it is the duty of all managers to plan and no index term would be assigned to this statement. For example, "Chief XX is required to develop procedural methods of accomplishing the division workload." Even if an adjective or adverb is added to this statement--- "Chief XX is required to develop effective and efficient procedural methods of accomplishing the division workload," the statement is still about a specific

job duty or requirement and the modifiers refer to how the job should be performed. The modifiers do not refer to the ratee per se and, therefore, this statement should not be indexed since it is not evaluating the ratee. However, if a statement is a qualitative statement and refers to the ratee, then it becomes a statement of evaluation and is indexed. If the rater said that the ratee plans well on the job, then a value judgment has been rendered about what kind of a planner the ratee is. For example, "Chief XX has developed effective and efficient procedural methods of accomplishing the division workload"; this statement would be labeled PLANNING 4. The statement no longer is a factual one but has become an evaluative comment about the ratee rather than a statement describing a job requirement. "Chief XX has developed procedural methods of accomplishing the division workload," would be labeled PLANNING 3 since the rater thought it worthwhile to mention this information and the statement, therefore, evaluates the ratee although no modifying adjective or adverb was used. *Always keep in mind that indexing decisions are made in terms of the qualifications that a ratee actually possesses that can aid him in performing a job, in terms of how a job is performed by a ratee, or in terms of the results achieved.*

Also keep in mind that in deciding on which numerical weight to use, modifying adjectives and/or adverbs must be associated with the idea or concept being indexed and not with another idea or concept in the same sentence. For example, consider the following statement: "His resourcefulness in completing his tasks in the most efficient and thorough manner is noted." *Most* is associated with the manner in which the ratee performs his tasks and, therefore, qualifies PRODUCTIVITY AND ACHIEVEMENT as a 5. The ratee's resourcefulness is not modified but it is stated that he possesses that characteristic. It helped to make the 5 weight possible for PRODUCTIVITY AND ACHIEVEMENT, but the first part of the statement is only indexed as RESOURCEFULNESS 3. To be given a 5 weight, the statement would have had to have been, "His outstanding resourcefulness in completing his tasks in the most efficient and thorough manner is noted." When there is no modifier given for an evaluative statement, a 3 weight is assigned to the index term selected (e.g., "His planning efforts have led to..." would be labeled PLANNING 3). Also, if a modifying adjective or adverb that falls at the 3 position on the weighting scale is included in the evaluative statement, the index term selected still would be given a weight of 3 (e.g., "His competent planning has led to..." would also be labeled PLANNING 3). Each statement indexed has to be regarded as a separate entity lest confusion and inconsistency result. *Always remember the rule: How else could this statement have been worded?*

However, if an adjective occurs before a string of words and phrases, this adjective modifies each word or phrase in the string until there is a clear break in the sentence structure, or until the adjective could not logically and/or grammatically be associated with a particular word or phrase. For example, "His outstanding technical knowledge and organizational ability have contributed to..." would be indexed as TECHNICAL SKILLS 5 and ORGANIZATION 5. The adjective *outstanding* modifies both phrases. Note that organization in the above example is referred to as a skill; yet it is placed under MANAGEMENT FUNCTIONS in the hierarchy of index terms. It is often difficult to differentiate between the performance of a function and the function as an actual skill that an individual may have. For example, there is a definite

ability to lead or skill of leadership; yet it also is a very important function performed by managers. These subtleties in word meaning and usage are part of the expressive fabric of the English language and continue to plague those who strive to achieve precision in systematizing the information content of written discourse. At some point arbitrary rules have to be imposed. In this content analysis scheme, both organization and leadership are considered to be principally management functions rather than skills an individual may possess.

It is also important to remember when indexing and applying the weighting scale to be careful to take note of the words that are actually contained in the definition of an index term. Consider the definition of COMMUNICATION: COMMUNICATION refers to the expression of thoughts and feelings through the spoken or written word in a clear and concise manner. Therefore, the indexer should regard the ability to communicate in a clear and concise manner as an average ability and index any statement phrased similarly as COMMUNICATION 3. If a ratee is said to communicate in a very concise manner, then this statement would be indexed as COMMUNICATION 4.

Every attempt has been made to present the information contained in this manual in as explicit and lucid a form as possible. However, indexing remains more of an art than a science for all of the reasons alluded to previously. As an indexer you will encounter segments of narrative text for which only your considered judgment can help you arrive at the final decision. It is important, though, that you try to keep your judgments as consistent as possible. The best way to assure consistency is to keep records of difficult or marginal decisions and, if possible, of the basis on which these decisions were made. Table A-3 presents a glossary of indexing decisions that were made by one experienced indexer to handle the appearance of ambiguous or troublesome words and phrases in narrative text. Use this table as an extra indexing guide.

It is recommended that the new indexer become thoroughly familiar with this training manual before attempting to index the narrative sections of Evaluation Reports. If he can compare his independent trial indexing decisions with those of an experienced indexer, this procedure will serve to pinpoint areas of confusion in his understanding of the indexing rules and conventions. Frequent rereading of the manual will help to guarantee that the rules are applied the same way from day to day.

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TABLE A-3

GLOSSARY OF WORD CLUES TO THE USE OF INDEX TERMS

Acts with ease = CONDUCT, INTEGRITY, AND PRIDE
Aggressive = DRIVE
Agreeable = COOPERATION
Alert = INTELLECTUAL FUNCTIONING (See Also RESPONSIVENESS)
Amiable/Affable = COOPERATION
Appraisal (assessment) of personnel = STAFFING
Background in rate = TECHNICAL SKILLS
Bearing = CONDUCT, INTEGRITY, AND PRIDE
Can-do attitude = DRIVE
Common sense = INTELLECTUAL FUNCTIONING
Congenial = COOPERATION
Constant = RELIABILITY AND DEPENDABILITY
Coordinate = ORGANIZATION
Decisiveness = SKILLS AND ABILITIES*
Delegate = ORGANIZATION
Deliberate = SKILLS AND ABILITIES*
Demeanor = CONDUCT, INTEGRITY, AND PRIDE
Deportment = CONDUCT, INTEGRITY, AND PRIDE
Devoted (dedicated) to duty or the Navy = SERVICE MOTIVATION
Devotes (dedicates) long hours = DRIVE
Diligent = DRIVE
Disposition = CONDUCT, INTEGRITY, AND PRIDE
Dynamic = DRIVE
(his) endeavor = DRIVE
Expediently = RESPONSIVENESS
Expeditious = RESPONSIVENESS
Expertise = TECHNICAL SKILLS
Forceful = DRIVE
Forcefulness of expression = COMMUNICATION
Foresight = SKILLS AND ABILITIES
Friendly = CONDUCT, INTEGRITY, AND PRIDE
Genial = CONDUCT, INTEGRITY, AND PRIDE
Humor = CONDUCT, INTEGRITY, AND PRIDE
Imagination = RESOURCEFULNESS
Ingenuity = RESOURCEFULNESS
Innovative = RESOURCEFULNESS
(has) instituted = INITIATIVE
Inventory = PLANNING + CONTROLLING
Judgment = INTELLECTUAL FUNCTIONING
Logical (keen) mind = INTELLECTUAL FUNCTIONING
Mature = RELIABILITY AND DEPENDABILITY
New ideas = INITIATIVE

* If ratee is decisive (deliberate) in his thinking, index as SKILLS AND ABILITIES. If ratee is decisive (deliberate) in his behavior, index as CONDUCT, INTEGRITY, AND PRIDE.

TABLE A-3 (CONT.)

GLOSSARY OF WORD CLUES TO THE USE OF INDEX TERMS

Original thinking = INITIATIVE
Perseverance = ENDURANCE
Recommended changes = INITIATIVE
Sincere = CONDUCT, INTEGRITY, AND PRIDE
Stable = RELIABILITY AND DEPENDABILITY
Suggestion making = INITIATIVE
Supervising men = LEADERSHIP AND DIRECTING
Supervising tasks = MANAGEMENT FUNCTIONS
Tactful (used alone) = CONDUCT, INTEGRITY, AND PRIDE
Tactful with men or subordinates = LEADERSHIP AND DIRECTING
Talent = SKILLS AND ABILITIES
Traffic flow pattern = PLANNING + CONTROLLING
Versatile = SKILLS AND ABILITIES
Vigor = DRIVE
Zeal = DRIVE

ALPHABETICAL DICTIONARY OF INDEX TERMS

Format: The name of each index term is shown in all capital letters at the beginning of the definition of the term. The definition is followed by a SEE ALSO entry if there is one. The last section of the format presents a number of examples of how each term in the dictionary was used. The numbe following each index term is the weight assigned to it by the indexer. Additional indexing clues may also be given.

ASSET TO THE NAVY refers to the worth or value of having an individual continue his career in the Navy.

EXAMPLES:

Ratee has been an exceptionally fine asset to this command.	ASSET TO THE NAVY 5
He has been a great asset to DESCOL and the Navy.	ASSET TO THE NAVY 4
Ratee has proven to be a definite asset with his outstanding professional and instructional ability in a relatively short time.	ASSET TO THE NAVY 4 PROFESSIONALISM 5 COMMUNICATION 5
He is an asset to the ship and the naval service.	ASSET TO THE NAVY 3

Additional Indexing Clues:

One of the most outstanding men in the Navy today.	ASSET TO THE NAVY 5
He is an outstanding military man.	ASSET TO THE NAVY 5
Valuable asset to the service	ASSET TO THE NAVY 4
Great value to the U.S. Navy	ASSET TO THE NAVY 4
Asset to this command	ASSET TO THE NAVY 3
Valuable to any command	ASSET TO THE NAVY 3
Credit to the Navy	ASSET TO THE NAVY 3
Credit to the squadron	ASSET TO THE NAVY 3
Asset to the command of the Navy	ASSET TO THE NAVY 3

ASSET TO THE NAVY is to be used only when the individual himself is considered to be an asset and not one of his traits. If one of his traits is an asset to the Navy, use asset as a qualifier for the trait. However, if his trait is an asset in performing a specific function, asset then qualifies the index term assigned to the function. For example, "His cooperative nature is a great asset to the Navy." COOPERATION 4. However, "His cooperative nature is a great asset in the performance of his coordinating responsibilities with Facilities Control and the Receiver Site," would be indexed as COOPERATION 3; ORGANIZATION 4.

AWARDS AND PUNISHMENT are measurements of an individual's job performance as reflected in his receiving official commendatory recognition or penalty, or his being recommended for such an award or penalty.

EXAMPLES:

BTC was recommended for an achievement medal for his leadership efforts during the 1969 WESTPAC Cruise.	AWARDS AND PUNISHMENT 5
Awarded the Navy Commendation Medal for meritorious service while attached to Fighter Squadron ONE FIVE ONE embarked in USS CORAL SEA (CVA-43) during combat operations from 10 October 1968 to 30 March 1969.	AWARDS AND PUNISHMENT 5
He was awarded an oral admonition.	AWARDS AND PUNISHMENT 1

Additional Indexing Clues:

Reported in a commendatory way	AWARDS AND PUNISHMENT 5
Relieved of duties	AWARDS AND PUNISHMENT 1

Use AWARDS AND PUNISHMENT only once no matter how many awards a ratee received if they are all mentioned in one statement. For example, "He won five awards for outstanding performances last year," would be indexed as AWARDS AND PUNISHMENT 5.

Use this term even if the award is given to a ratee's squadron, command, or other such unit. For example, "He contributed directly to the annual OP-EVAL award of 'Outstanding' given this division by the DCA Inspection Team during their recent visit to this Command." AWARDS AND PUNISHMENT 5.

Do not index that part of the sentence following the award statement which tells about the performance for which the ratee won the award. This is all considered to be part of the award statement. For example, "Ratee was recommended for and received the Navy Achievement Medal for his outstanding professional performance during this reporting period," would be indexed simply as AWARDS AND PUNISHMENT 5.

NOTE: AWARDS AND PUNISHMENT is assigned a weight of either 5 or 1.

COMMUNICATION refers to the expression of thoughts and feelings through the spoken or written word in a clear and concise manner. Includes *public speaking*, *reports*, *records*, and *letters*.

The ability to communicate is reflected in the choice of words or vocabulary, the organization of the expressed thoughts, phrasing, sentence structure, paragraphing, and overall clarity and forcefulness of expression.

SEE ALSO: USE OF COMMUNICATION

EXAMPLES:

His use of the English language is excellent and he expresses himself exceptionally well, both orally and in writing.	COMMUNICATION 5 COMMUNICATION 5
Ratee's ability to correctly speak the English language is outstanding.	COMMUNICATION 5
He utilizes a well-rounded vocabulary to very effectively express himself.	COMMUNICATION 4
He possesses an average command of the English language both orally and in writing.	COMMUNICATION 3
He is capable of expressing himself clearly and adequately.	COMMUNICATION 3
He is soft spoken but speaks well; however, his written work, particularly spelling, could use improvement.	COMMUNICATION 4 COMMUNICATION 2

Additional Indexing Clues:

Excellent knowledge of English language	COMMUNICATION 5
Command of language superb	COMMUNICATION 5
Grammar excellent	COMMUNICATION 5
Vocabulary excellent	COMMUNICATION 5
His reports are accurate.	COMMUNICATION 4
Expresses well in writing	COMMUNICATION 4
Expresses well orally	COMMUNICATION 4
Expresses well orally and in writing	COMMUNICATION 4
Speaks with ease	COMMUNICATION 4

COMMUNICATION (Continued)

Can converse easily	COMMUNICATION 4
Eloquent speaker	COMMUNICATION 4
Relaxed group speaker	COMMUNICATION 3
Is at ease when speaking	COMMUNICATION 3
Presents matter in a comprehensive and interesting manner	COMMUNICATION 3
Speaks correctly	COMMUNICATION 3
Speaks logically	COMMUNICATION 3
Verbal expression is comprehensive	COMMUNICATION 3
Capable in expressing himself	COMMUNICATION 3
Difficulty speaking to large groups	COMMUNICATION 2

A ratee's ability to communicate may be expressed by the evaluator with one or more descriptive phrases, but this part of the sentence should be treated as a single entity and labeled only once with COMMUNICATION. For example, "He utilizes a well-rounded vocabulary to very effectively express himself." COMMUNICATION 4.

Instructor would be indexed with COMMUNICATION unless it was the ratee's job title or main job duty. In this case it most likely would be labeled MANAGEMENT FUNCTIONS or PRODUCTIVITY AND ACHIEVEMENT, depending upon the statement.

CONDUCT, INTEGRITY, AND PRIDE refers to the way that one acts and to the mental activities and attitudes that influence behavior, such as integrity and pride. Integrity refers to one's moral principles, honesty, and sincerity. Pride is the sense of one's own dignity or worth.

For the assessment of integrity we would look at an individual's use of time and expense reports, dealings with others, probity in handling assignments, sincerity about his work, and his attitude toward life.

EXAMPLES:

His conduct and personal appearance are always superb.	CONDUCT, INTEGRITY, AND PRIDE 5 GROOMING AND ATTIRE 5
He maintains an exemplary military appearance, and has high moral standards and sound sense of values.	GROOMING AND ATTIRE 4 CONDUCT, INTEGRITY, AND PRIDE 4 CONDUCT, INTEGRITY, AND PRIDE 4
Ratee reflects pride in his position as a Chief Petty Officer and provides an outstanding example through his exceptionally fine personal habits and dress under all circumstances.	CONDUCT, INTEGRITY, AND PRIDE 3 CONDUCT, INTEGRITY, AND PRIDE 5 GROOMING AND ATTIRE 5
His even disposition has proven an asset in maintaining an open channel of communication between instructor and student.	CONDUCT, INTEGRITY, AND PRIDE 3 USE OF COMMUNICATION 3
The ratee has the potential to become an outstanding chief but has problems controlling his drinking while on the bench, resulting in tardiness at the expiration of liberty and his absence during working hours.	POTENTIAL 5 CONDUCT, INTEGRITY, AND PRIDE 2 CONDUCT, INTEGRITY, AND PRIDE 2 CONDUCT, INTEGRITY, AND PRIDE 2
Excesses in alcohol have led to tardiness and a question of his dependability.	CONDUCT, INTEGRITY, AND PRIDE 1 CONDUCT, INTEGRITY, AND PRIDE 2 RELIABILITY AND DEPENDABILITY 2

Additional Indexing Clues:

He provides an excellent example for his men.	CONDUCT, INTEGRITY, AND PRIDE 5
Chief XX's conduct is never questioned.	CONDUCT, INTEGRITY, AND PRIDE 5
Exemplary behavior	CONDUCT, INTEGRITY, AND PRIDE 4

CONDUCT, INTEGRITY, AND PRIDE (Continued)

Professional behavior	CONDUCT, INTEGRITY, AND PRIDE 4 PROFESSIONALISM 3
He is always correct and proper in all relationships.	CONDUCT, INTEGRITY, AND PRIDE 4 CONDUCT, INTEGRITY, AND PRIDE 4
Quick humor	CONDUCT, INTEGRITY, AND PRIDE 4
Gentlemanly	CONDUCT, INTEGRITY, AND PRIDE 3
At ease with superiors and subordinates	CONDUCT, INTEGRITY, AND PRIDE 3
Tactful	CONDUCT, INTEGRITY, AND PRIDE 3
Friendly	CONDUCT, INTEGRITY, AND PRIDE 3
Not afraid to offer criticism	CONDUCT, INTEGRITY, AND PRIDE 3
Bordered on insubordination	CONDUCT, INTEGRITY, AND PRIDE 2

It is important to remember that no matter how positive a trait may be, it is impossible to be consistent in weighting these traits; therefore, the weight is determined by the adjective which further qualifies the type of trait that a ratee possesses. For example, cheerful or cheerful personality would be given a weight of 3, while very cheerful or a very cheerful personality would be given a weight of 4.

Also included in this term are personality traits and attitudes. The following in their present form would all be indexed as CONDUCT, INTEGRITY, AND PRIDE 3: optimistic attitude; pleasant attitude; takes pride in himself; pride in his performance; dignified; self-confident; upright; honest; sincere; does not procrastinate; spends not excessive time "visiting"; perfectionist; quiet; unselfish; firm; courage; composed; calm; courtesy; disposition; obedience; loyalty to his superiors; friendly.

Good humor and a good example for contemporaries both would be indexed as CONDUCT, INTEGRITY, AND PRIDE 4 because of the word *good*.

The word *pride* often appears in the narrative text in conjunction with the way that a ratee feels about the Navy. Under these circumstances, use the index term SERVICE MOTIVATION.

CONTROLLING is the measurement of performance against established standards, correcting deviations, and assuring accomplishment of plans. In simple terms, controlling makes certain that what is done is what is intended. *Forward-looking* control prevents deviations from occurring by anticipating that they will occur unless action is taken now, such as maintenance of equipment.

Any activity which involves feedback is a controlling function in that it helps to ensure the successful accomplishment of goals (e.g., checks and balances, bookkeeping, accounting systems, traffic flow, and inventory).

EXAMPLES:

His ability to seek out potential problems and correct them before failure occurred has been extremely beneficial.	CONTROLLING 5
He is consistently capable of resolving problem areas before a critical situation can develop.	CONTROLLING 4
In his capacity as water chief tender he has enforced a strict and professional water chemistry program.	CONTROLLING 4
His analysis of divisional problems, both functional and administrative, and the execution of corrective measures have been very conducive to a smooth and highly effective division.	PLANNING 3 CONTROLLING 3 PRODUCTIVITY AND ACHIEVEMENT 4
Because he never examined the fireroom equipment during the 10 days in port, the unsatisfactory condition of the boilers went unchecked.	CONTROLLING 1

Additional Indexing Clues:

Prevents problems	CONTROLLING 3
Corrects difficulties	CONTROLLING 3
Overcomes obstacles	CONTROLLING 3

Maintenance is a controlling function because it helps to assure accomplishment of plans. However, if an individual's job title or main job duty is maintenance, then this usually would be indexed as PRODUCTIVITY

CONTROLLING (Continued)

AND ACHIEVEMENT since maintenance is the performance of his total job function.

If the correction, problem solving, or prevention is of a technical nature and is performed solely by the ratee instead of by a group of his subordinates, it should be regarded more as a technical function or the demonstration of a technical skill rather than considered to be a controlling function, and would be labeled TECHNICAL SKILLS. For example, "Ratee's knowledge of the P-3 aircraft electronic systems and his ability to expeditiously correct the most complex electronic problem is outstanding." TECHNICAL SKILLS 5; RESPONSIVENESS 3; TECHNICAL SKILLS 5. The modifying adverb *outstanding* belongs to both phrases of this sentence.

The words *assure* and *ensure* should serve as a clue that the phrase which follows probably will be indexed as a controlling function.

COOPERATION is acting or working together with others or another for a common purpose. Includes *congenial*, *amiable*, or *agreeable* attitudes which enhance the act of working together.

EXAMPLES:

He always cooperates fully with his seniors and accomplishes his duties in an outstanding manner.	COOPERATION 5 PRODUCTIVITY AND ACHIEVEMENT 5
He is always willing to help others in any way he can.	COOPERATION 5
Ratee exemplifies the perfect officer-chief relationship.	COOPERATION 5
Ratee is very cooperative with his seniors and his contemporaries, always putting the interests of the Navy first.	COOPERATION 4 SERVICE MOTIVATION 5
He is cooperative and well liked.	COOPERATION 3 REPUTE 4
He is a pleasure to work with.	COOPERATION 3
He will nevertheless listen to the ideas, beliefs, and suggestions of others.	COOPERATION 3

Additional Indexing Clues:

Never hesitates to fully cooperate	COOPERATION 5
Works well with superiors and subordinates	COOPERATION 4
Gets along well with others	COOPERATION 4
Continuous cooperation in all aspects	COOPERATION 4
Complete cooperation	COOPERATION 4
Congenial	COOPERATION 3
Amiable	COOPERATION 3
Cooperative	COOPERATION 3
He will compromise.	COOPERATION 3
Cooperative with superiors and subordinates	COOPERATION 3
Assists others	COOPERATION 3
Uncooperative	COOPERATION 2

Usually a ratee's interpersonal relationship with his subordinates would be indexed as LEADERSHIP AND DIRECTING. However, when a statement has to do with a ratee's cooperative attitude in working with others, whether superiors or subordinates, then it should be labeled COOPERATION.

DRIVE is the desire or personal motivation to achieve a purpose. Includes the desire for self-improvement or the desire to manage, achieve a purpose, and improve output through the teamed effort of subordinates. Includes *conscientious*, *energetic*, *enthusiasm*, *forceful*, and *interest*.

EXAMPLES:

He is an exceptionally dedicated and hard working Chief, readily accepting and expeditiously solving problems.	DRIVE 5 DRIVE 5 RELIABILITY AND DEPENDABILITY 4 CONTROLLING 4
Always works to his fullest potential.	DRIVE 5
This highly energetic and enthusiastic young petty officer has performed all aspects of his duties in an outstanding fashion.	DRIVE 4 DRIVE 4 PRODUCTIVITY AND ACHIEVEMENT 5
Ratee performs with vigor.	DRIVE 3
He is conscientious and is always extremely dependable.	DRIVE 3 RELIABILITY AND DEPENDABILITY 5
Although the tasks assigned to the personnel under his supervision are always completed efficiently and in an excellent to outstanding manner, his superiors feel that he is capable of getting more out of his men and of putting more of himself into the job.	PRODUCTIVITY AND ACHIEVEMENT 5 LEADERSHIP AND DIRECTING 2 DRIVE 2
Ratee is not as aggressive as he could be which subsequently detracts from him reaching his full potential.	DRIVE 2 POTENTIAL 2

Additional Indexing Clues:

He continually strives for perfection.	DRIVE 5
Always driving to do the best job possible	DRIVE 5
Completely dedicated	DRIVE 4
Attempts to achieve perfection	DRIVE 4
Volunteers for jobs	DRIVE 3

DRIVE (Continued)

The following words and phrases would be indexed as DRIVE 4: unflagging effort; works very hard at his job; spends many extra hours at his job; dedicates or devotes long hours; tireless; chief is tireless in his efforts to improve his equipment, personnel, and records; always willing to work long hours whenever necessary; continuously strives; taking courses in off-duty hours.

The following words and phrases would be indexed as DRIVE 3: intent on doing job well; determined; works hard; applied himself; strives for improvement; drive; working long hours; aggressive pursuit of duties; can-do spirit or attitude; diligent; dynamic; ambitious; zeal; endeavor.

When a statement about drive is part of how a ratee is performing a specific function or skill, then the statement is used as a qualifier for that function or skill. For example, "Ratee works very hard at motivating his men to improve their performance," would be indexed as LEADERSHIP AND DIRECTING 4, and DRIVE would not be used. However, a statement such as, "Ratee is constantly seeking to improve the productivity of the work center," would be indexed as DRIVE 4 since there is no indication that this objective has been achieved and there is no mention of any specific function or skill.

ENDURANCE is the ability to complete tasks under conditions of fatigue, distress, stress, and/or pain.

EXAMPLES:

His endurance is outstanding.	ENDURANCE 5
During the previous deployment he demonstrated his ability to function smoothly and effectively under adverse and demanding conditions for extended periods.	ENDURANCE 4
His ability to maintain an inner calm and to function efficiently during periods of great confusion and stress suit him ideally to his present assignment.	CONDUCT, INTEGRITY, AND PRIDE 3 ENDURANCE 4
He uncomplainingly responds when called upon to meet unscheduled commitments, frequently under adverse conditions.	RESPONSIVENESS 4 ENDURANCE 3

Additional Indexing Clues:

Performs well under stress	ENDURANCE 4
His persistence (tenacity) in the face of adversity	ENDURANCE 3
Fortitude	ENDURANCE 3
Indefatigable	ENDURANCE 3
Tested and proven under hostile fire	ENDURANCE 3
Perseverance	ENDURANCE 3

FLEXIBILITY is the quality of being adjustable or adaptable to change; capable of modification.

EXAMPLES:

His keen mind is alert to all possible circumstances, and he succeeds brilliantly in adjusting to new environments.	INTELLECTUAL FUNCTIONING 4 FLEXIBILITY 5
Overall, he is a highly adaptable individual who exhibits unlimited potential and continuing high value to the U.S. Navy.	FLEXIBILITY 4 POTENTIAL 5 ASSET TO THE NAVY 4
He is a mature, stable Chief Petty Officer, intelligent, adaptable, and reliable.	RELIABILITY AND DEPENDABILITY 3 RELIABILITY AND DEPENDABILITY 3 INTELLECTUAL FUNCTIONING 3 FLEXIBILITY 3 RELIABILITY AND DEPENDABILITY 3

Additional Indexing Clues:

Adjusts quickly	FLEXIBILITY 4
Able to handle varied jobs and hence is a very valuable Chief	FLEXIBILITY 3 ASSET TO THE NAVY 4
Flexible	FLEXIBILITY 3
Open minded	FLEXIBILITY 3
Open mind to criticism	FLEXIBILITY 3

GROOMING AND ATTIRE is the way in which a person cares for his physical appearance and clothing.

EXAMPLES:

Neat and polished appearance is in keeping with the highest Navy standards and serves as a criteria of excellence among the men with whom he comes in contact.	GROOMING AND ATTIRE 5
Ratee's personal appearance is always correct and proper.	GROOMING AND ATTIRE 4
He is always neat in appearance and his conduct is exemplary.	GROOMING AND ATTIRE 4 CONDUCT, INTEGRITY, AND PRIDE 4
He is tidy, intelligent, and obtains the best results from his men.	GROOMING AND ATTIRE 3 INTELLECTUAL FUNCTIONING 3 LEADERSHIP AND DIRECTING 5
His tendency towards being overweight greatly detracts from his overall appearance.	GROOMING AND ATTIRE 2

Additional Indexing Clues:

His impeccable appearance leaves nothing to be desired.	GROOMING AND ATTIRE 5
Wearing of uniform excellent	GROOMING AND ATTIRE 5
Always impeccable	GROOMING AND ATTIRE 4
His appearance is immaculate at all times.	GROOMING AND ATTIRE 4
His appearance and dress is always correct, smart, and impressive.	GROOMING AND ATTIRE 4
His uniform is consistently immaculate.	GROOMING AND ATTIRE 4
His appearance is good and sets an example for all.	GROOMING AND ATTIRE 4
His dress is impressive, and is worn with care.	GROOMING AND ATTIRE 4
Uniform (or dress) immaculate	GROOMING AND ATTIRE 4
Grooming impeccable	GROOMING AND ATTIRE 4
He takes pride in his appearance.	GROOMING AND ATTIRE 3
Attention to his appearance	GROOMING AND ATTIRE 3
Appearance military	GROOMING AND ATTIRE 3
Shined shoes	GROOMING AND ATTIRE 3

INITIATIVE is the ability to recognize and originate necessary or appropriate tasks on one's own without being asked.

EXAMPLES:

His personal appearance, cooperative attitude, and initiative leave virtually nothing to be desired.	GROOMING AND ATTIRE 5 COOPERATION 5 INITIATIVE 5
He is extremely reliable and never fails to take the initiative in difficult situations.	RELIABILITY AND DEPENDABILITY 5 INITIATIVE 5
He displays an outstanding example in initiative.	INITIATIVE 5
Ratee displays considerable initiative in accomplishing each task assigned.	INITIATIVE 4
Ratee possesses a keen mind, is capable of original thinking, and expresses his thoughts well and decisively when communicating with others.	INTELLECTUAL FUNCTIONING 3 INITIATIVE 3 COMMUNICATION 4
Ratee is proficient in anticipating situations in his area of responsibility and initiates action to cope with it.	CONTROLLING 4 INITIATIVE 3
Ratee undertakes his duties willingly but lacks the initiative that is required of the very best in his rate.	RELIABILITY AND DEPENDABILITY 4 INITIATIVE 2
However, at times he lacks the initiative and drive that is necessary to produce these results.	INITIATIVE 2 DRIVE 2

Additional Indexing Clues:

Provided Division officer with many ideas	INITIATIVE 4
Volunteering his own views	INITIATIVE 3
Making suggestions (recommendations)	INITIATIVE 3
An original thinker	INITIATIVE 3
Institutes	INITIATIVE 3

"He has shown initiative by repairing the probe refueling hose and fixing the main feed pumps in the forward fireroom." INITIATIVE 3; PRODUCTIVITY AND ACHIEVEMENT 3. Here the index term PRODUCTIVITY AND ACHIEVEMENT is used rather than TECHNICAL SKILLS because the indexer cannot be certain whether the ratee had the skill to do this himself or whether he actually managed or directed others to accomplish this task. CONTROLLING is not used here because the ratee's main job duty was maintenance.

INTELLECTUAL FUNCTIONING is the ability to learn or understand from experience, and the ability to analyze, reason, and perceive relationships and differences.

A measurement of intellectual functioning would be a scholastic record.

EXAMPLES:

He completed all courses with very high grades, usually leading his class.	INTELLECTUAL FUNCTIONING 5
Ratee is extremely intelligent.	INTELLECTUAL FUNCTIONING 5
He learns quickly and applies his training and experience effectively.	INTELLECTUAL FUNCTIONING 4 PRODUCTIVITY AND ACHIEVEMENT 4
He is a forceful and intelligent Career Petty Officer who has such command of the basic professional techniques that he can direct his actions to job perfection and the well-being of his subordinates.	DRIVE 3 INTELLECTUAL FUNCTIONING 3 PROFESSIONALISM 4 TECHNICAL SKILLS 4 PRODUCTIVITY AND ACHIEVEMENT 5 LEADERSHIP AND DIRECTING 4
He is tidy, intelligent, and obtains the best results from his men.	GROOMING AND ATTIRE 3 INTELLECTUAL FUNCTIONING 3 LEADERSHIP AND DIRECTING 5

Additional Indexing Clues:

Learned quickly	INTELLECTUAL FUNCTIONING 4
Coherent mental organization	INTELLECTUAL FUNCTIONING 3
Coherence of his thoughts	INTELLECTUAL FUNCTIONING 3
Intelligence	INTELLECTUAL FUNCTIONING 3
Keen minded	INTELLECTUAL FUNCTIONING 3
Common sense	INTELLECTUAL FUNCTIONING 3
Judgment	INTELLECTUAL FUNCTIONING 3
Insight	INTELLECTUAL FUNCTIONING 3

Alert would be indexed as INTELLECTUAL FUNCTIONING 3. However, if the ratee is alert to a command or an order, it would be indexed as RESPONSIVENESS 3.

Analytical mind would be indexed as INTELLECTUAL FUNCTIONING 3. Sometimes intellectual functioning, planning, and controlling become confused. It is important here to keep in mind whether the rater was referring to the function of planning or controlling or whether he was making a statement about the ratee's intellectual functioning, i.e., his general analytical ability, his ability to proceed logically, or his problem-solving ability. For example, "His imagination allows him to find new and different solutions to problems which others do not seem to be able to solve," would be indexed as RESOURCEFULNESS 3 and INTELLECTUAL FUNCTIONING 4.

LEADERSHIP AND DIRECTING represent motivating, guiding, and supervising of subordinates to accomplish a job and work towards improved performance. Includes encouraging subordinates in cooperative endeavors and also in self-development through counseling. A measure would be morale.

LEADERSHIP AND DIRECTING also would be creating an atmosphere that makes teamwork possible, such as improving working conditions.

EXAMPLES:

His excellent leadership qualities were especially manifest when he was assigned to lead the maintenance efforts on CQ. detachments in CONSTELLATION and INDEPENDENCE.	LEADERSHIP AND DIRECTING 5
Ratee handles his men in an effective manner and always gets good results from his subordinates.	LEADERSHIP AND DIRECTING 4 LEADERSHIP AND DIRECTING 4
Ratee's knowledge of the S-2E Electronic System is outstanding, and he is able to utilize this exceptional knowledge through skillful management of shop personnel and an innate ability to pass along what he knows to others.	TECHNICAL SKILLS 5 TECHNICAL SKILLS 5 LEADERSHIP AND DIRECTING 4 COMMUNICATION 4
He spent a great deal of extra time with his men and turned out well trained, well motivated men for the fleet.	LEADERSHIP AND DIRECTING 4 STAFFING 4 LEADERSHIP AND DIRECTING 4
Ratee has the ability to solve problems and motivate people.	INTELLECTUAL FUNCTIONING 3 LEADERSHIP AND DIRECTING 3
His loyalty was shown in the conscientious manner in which he attended to the problems of his men.	CONDUCT, INTEGRITY, AND PRIDE 3 LEADERSHIP AND DIRECTING 3
He appears to be indifferent to the personnel administration of his men especially in regard to special requests and advancement.	LEADERSHIP AND DIRECTING 2
Although the tasks assigned to the personnel under his supervision are always completed efficiently and in an excellent to outstanding manner, his superiors feel that he is capable of getting more out of his men and of putting more of himself into the job.	PRODUCTIVITY AND ACHIEVEMENT 5 LEADERSHIP AND DIRECTING 2 DRIVE 2

LEADERSHIP AND DIRECTING (Continued)

Additional Indexing Clues:

Gets most out of them	LEADERSHIP AND DIRECTING 5
Best results from men	LEADERSHIP AND DIRECTING 5
Consistent in direction of personnel	LEADERSHIP AND DIRECTING 4
High shop esprit	LEADERSHIP AND DIRECTING 4
High regard for men	LEADERSHIP AND DIRECTING 4
Aggressive leadership	LEADERSHIP AND DIRECTING 4
Molded crew into competent and effective team	LEADERSHIP AND DIRECTING 4
Directs men well	LEADERSHIP AND DIRECTING 4
High expectations from men	LEADERSHIP AND DIRECTING 4
High regard for team concept	LEADERSHIP AND DIRECTING 4
Promotes harmony and accord	LEADERSHIP AND DIRECTING 4
Men cheerful	LEADERSHIP AND DIRECTING 3
Led the shop	LEADERSHIP AND DIRECTING 3
Encourages and guides subordinates	LEADERSHIP AND DIRECTING 3
Helped men advance in rate	LEADERSHIP AND DIRECTING 3
Leads by setting the example	LEADERSHIP AND DIRECTING 3
Leadership ability	LEADERSHIP AND DIRECTING 3
Men trust him/loyal to him	LEADERSHIP AND DIRECTING 3
Finds time to direct and counsel young men	LEADERSHIP AND DIRECTING 3
Skilled at managing his men	LEADERSHIP AND DIRECTING 3
Tact in handling subordinates	LEADERSHIP AND DIRECTING 3
His men are hard working	LEADERSHIP AND DIRECTING 3
No disciplinary problems	LEADERSHIP AND DIRECTING 3
Mindful of his position as a leader	LEADERSHIP AND DIRECTING 3
Lack of leadership	LEADERSHIP AND DIRECTING 2
Needs more forceful approach to leadership	LEADERSHIP AND DIRECTING 2

Many experts in the field of management feel that the connection between performance and possession of traits is doubtful. But practically every study has found successful managers to be strong leaders. Leadership is not only an ability or trait but it is also a very important function of

LEADERSHIP AND DIRECTING (Continued)

management. To direct his subordinates, a manager must motivate, communicate, and lead. Directing is a function that includes all those activities which are designed to encourage subordinates to work effectively and efficiently. A manager must be concerned for human feelings and morale. For example, "He is tactful with his subordinates." It can be seen here that interpersonal relations between a ratee and his subordinates is important to the leadership and directing function. The *rapport* that a ratee has with his divisional personnel would be indexed with LEADERSHIP AND DIRECTING. However, a ratee's interpersonal relationship with his peers or superiors probably would be indexed by one of the following terms: CONDUCT, INTEGRITY, AND PRIDE; COOPERATION; REPRESENTATION; or RESPONSIVENESS. There is one exception to this rule. When the statement has to do with a ratee's cooperative attitude in working with others, superiors or subordinates, use the index term COOPERATION. The *rapport* that a ratee has with other organizational units enhances his division's work and, therefore, the index term REPRESENTATION would be used.

A manager must act his part and be conscious of the impact of his behavior on his men. For example, "He leads by example."

A manager also must look after the individual needs of his subordinates and provide a challenge for them. He must be responsive to their needs and to their ideas and suggestions.

The words *supervising* or *directing* can apply to tasks, men, or both. The indexer has to judge what the rater means. It usually can be assumed that supervising refers to the overall managerial functions or tasks (MANAGEMENT FUNCTIONS), unless stated or inferred otherwise.

MANAGEMENT FUNCTIONS are those job duties which are characteristic of all managers. Though operations may differ from one organization to another, the functions of the manager are common to all.

EXAMPLES:

He is an excellent manager and organizer who is willing to accept any assignment no matter how difficult.	MANAGEMENT FUNCTIONS 5 ORGANIZATION 5 RELIABILITY AND DEPENDABILITY 5
Chief XX has made a prime contribution to the ship through his excellent supervision of the Fuel Oil and Water Testing Laboratory and the Oil Kings.	PRODUCTIVITY AND ACHIEVEMENT 4 MANAGEMENT FUNCTIONS 5
Ratee's superior leadership capabilities and overall knowledge of management greatly contributed to this division receiving a grade of 4.0 during the annual administrative inspection.	LEADERSHIP AND DIRECTING 5 MANAGEMENT FUNCTIONS 4 PRODUCTIVITY AND ACHIEVEMENT 4
He is well versed in the 3-M System and always exhibits sound management practices.	TECHNICAL SKILLS 4 MANAGEMENT FUNCTIONS 4
His administrative knowledge and ability to supervise and coordinate the efforts of other instructors enabled this command to develop all the material required for realistic support of the E2B Aircraft.	MANAGEMENT FUNCTIONS 3 LEADERSHIP AND DIRECTING 3 ORGANIZATION 3 PRODUCTIVITY AND ACHIEVEMENT 4
BTC has an excellent working and practical knowledge of the PMS System but has a tendency to be lax in the administrative phase of the system.	TECHNICAL SKILLS 5 MANAGEMENT FUNCTIONS 2

Additional Indexing Clues:

Proficient Petty Officer	MANAGEMENT FUNCTIONS 4

The words *supervising* or *directing* can apply to tasks or men. The indexer has to judge what the rater means. It usually can be assumed that supervising refers to the overall managerial functions or tasks, unless stated or inferred otherwise. If the statement refers to the supervising or directing of men only, then use LEADERSHIP AND DIRECTING.

MANAGEMENT FUNCTIONS (Continued)

E-7/8/9 Evaluation Reports describe the on-job performance of junior level managers. Managers at a junior level have technical as well as managerial functions. This should be remembered when indexing a statement that includes the ratee's job title. For example, if the statement claims that the ratee is an "excellent Radioman or Boilerman," we would assume that the rater was referring to his technical skills and label it as such. But on the other hand, if a statement claims that the ratee is an "excellent Chief Petty Officer or Supervisor," it would be assumed that the rater is referring more to the ratee's managerial functions and would be labeled accordingly. Also remember that if *Instructor* is a ratee's job title, a statement regarding his instructing would be labeled as MANAGEMENT FUNCTIONS, whereas if the reference is to how a ratee instructs during the course of his other duties, use the label COMMUNICATION.

In evaluating a ratee, the indexer should be interested in how the ratee performs his managerial functions. These functions are the means by which the manager proceeds to accomplish his job. When a statement refers to how he performs these overall tasks, use MANAGEMENT FUNCTIONS. However, when a statement refers to the results accomplished from performing these tasks, use PRODUCTIVITY AND ACHIEVEMENT.

ORGANIZATION is the establishment of an intentional structure of roles through the determination and enumeration of activities required to achieve enterprise goals such as grouping activities and roles, delegating authority, and coordinating authority relationships.

EXAMPLES:

He does an excellent job of planning, organizing, and carrying out his job.	PLANNING 5 ORGANIZATION 5 PRODUCTIVITY AND ACHIEVEMENT 5
He has developed an extremely tightly knit division which has an uncommon amount of pride in its work.	ORGANIZATION 5 LEADERSHIP AND DIRECTING 5
He is a highly motivated and aggressive individual with a good sense or organization and administrative ability.	DRIVE 4 DRIVE 4 ORGANIZATION 4 MANAGEMENT FUNCTIONS 4
Ratee spends a very limited time in the shop but has exerted a spirit of independence in his First Class, the result being a well organized and efficient shop.	DRIVE 2 LEADERSHIP AND DIRECTING 4 ORGANIZATION 4 PRODUCTIVITY AND ACHIEVEMENT 4
His ability to assign workload in a smooth fashion is noteworthy.	ORGANIZATION 4
He is a professional administrator and understands the principles of delegation.	PROFESSIONALISM 3 MANAGEMENT FUNCTIONS 4 ORGANIZATION 3
The ratee's ability to work with others, his capacity for organization and stimulating enthusiasm makes him a valuable asset to any unit.	COOPERATION 3 ORGANIZATION 3 DRIVE 4 ASSET TO THE NAVY 4
He reorganized the work center.	ORGANIZATION 3
His initiative at times lags, and he tends to undertake too many tasks alone rather than delegating them to subordinates.	INITIATIVE 2 ORGANIZATION 2

Additional Indexing Clues:

Excellent organizer	ORGANIZATION 5
Excellent job setting up the operation	ORGANIZATION 5

ORGANIZATION (Continued)

Set up a file on each item	ORGANIZATION 3
Ability to coordinate	ORGANIZATION 3
Coordinates work centers	ORGANIZATION 3
Coordination of work duties	ORGANIZATION 3

If a ratee sets up a *liaison* with another organizational unit or division within the Navy or an outside organization, the index term ORGANIZATION would be used. However, if a ratee uses the *liaison* or organizational structure that is already set up to enhance his division's working relationship with other organizational units, the index term REPRESENTATION would be used. If a *liaison* is used as a channel of communication, then the index term USE OF COMMUNICATION would be used.

PLANNING is a decision-making process involving the selection among alternatives of objectives, policies, and programs and the procedures for achieving them.

Types of plans include objectives, policies, methods or procedures, rules, programs, budgets, strategies, schedules, traffic flow patterns, and inventory.

EXAMPLES:

He does an excellent job of planning, organizing, and carrying out his job.	PLANNING 5 ORGANIZATION 5 PRODUCTIVITY AND ACHIEVEMENT 5
He is methodical, deliberate, and able to develop effective and efficient procedural methods of accomplishing the division workload.	SKILLS AND ABILITIES 3 SKILLS AND ABILITIES 3 PLANNING 4
Ratee's resourcefulness in setting up a procedure to instruct 150 recruits daily in this very difficult operation was largely responsible for the efficient operation of the matches.	RESOURCEFULNESS 3 PLANNING 4 PRODUCTIVITY AND ACHIEVEMENT 4
He had the ability and initiative to plan and assign work to personnel under his direction to ensure that the end results are of the highest quality.	INITIATIVE 3 PLANNING 3 ORGANIZATION 3 CONTROLLING 5
His analysis of divisional problems, both functional and administrative, and the execution of corrective measures have been very conducive to a smooth and highly effective division.	PLANNING 3 CONTROLLING 3 PRODUCTIVITY AND ACHIEVEMENT 4

Additional Indexing Clues:

Found new ways to improve the security of the Communications building	PLANNING 4
Good decision maker	PLANNING 4
Improves plans	PLANNING 4
Has alternate plans	PLANNING 3

POTENTIAL refers to the capacity and/or recommendation for an individual to assume a higher rank or added responsibilities.

EXAMPLES:

Chief XX has demonstrated the potential to be an outstanding leader.	POTENTIAL 5
He would be most valuable in an instructor billet assignment.	POTENTIAL 5
There is nothing that can arise in his present position or next assignment that ratee cannot cope with.	POTENTIAL 5
He is highly recommended for advancement.	POTENTIAL 4
Chief XX is highly recommended for advancement and retention in the Naval Reserve.	POTENTIAL 4
He is qualified to assume the greater responsibility of the next higher pay grade.	SKILLS AND ABILITIES 3 POTENTIAL 3
Ratee is fully qualified for advancement in rate.	SKILLS AND ABILITIES 4 POTENTIAL 3
Ratee is very knowledgeable in the supply system and is recommended for E-8.	TECHNICAL SKILLS 4 POTENTIAL 3
With more time and conscientious effort, he should realize a greater potential.	POTENTIAL 2

Additional Indexing Clues:

Outstanding potential for added responsibility	POTENTIAL 5
Highly recommended for advancement	POTENTIAL 4
Strongly recommended for promotion	POTENTIAL 4
Eminently well qualified for advancement	SKILLS AND ABILITIES 4 POTENTIAL 3
Expected to improve	POTENTIAL 3
Capable of assuming more responsibility	POTENTIAL 3

PRODUCTIVITY AND ACHIEVEMENT refers to the successful accomplishment of a desired result in terms of an individual's performance of his job duties (managerial functions). Use this descriptor term unless a specific function is mentioned in the narrative content of the Evaluation Report.

EXAMPLES:

Every assignment is performed with unusual accuracy and effectiveness.	PRODUCTIVITY AND ACHIEVEMENT 5
Ratee's performance is outstanding in all aspects.	PRODUCTIVITY AND ACHIEVEMENT 5
Performance in both his primary and secondary billets has been outstanding in all aspects as marked in block 19.	PRODUCTIVITY AND ACHIEVEMENT 5
Under his supervision the shop has met and surpassed the accepted norms of productivity.	PRODUCTIVITY AND ACHIEVEMENT 4
Production over the past six months has been about average for a two-man station.	PRODUCTIVITY AND ACHIEVEMENT 3
His technical competence and resourcefulness contributes to ships in tending to maintain operational readiness.	TECHNICAL SKILLS 3 RESOURCEFULNESS 3 PRODUCTIVITY AND ACHIEVEMENT 3
His performance has been commensurate with his rate.	PRODUCTIVITY AND ACHIEVEMENT 3
While he was acting as ship's Oil King, the ship witnessed three oil spills while refueling.	PRODUCTIVITY AND ACHIEVEMENT 2
His extremely poor performance of his duties led directly to the ship's boilers not being in a state of operational readiness.	PRODUCTIVITY AND ACHIEVEMENT 1

Additional Indexing Clues:

Never allowed shop to wane	PRODUCTIVITY AND ACHIEVEMENT 5
Outstanding performance	PRODUCTIVITY AND ACHIEVEMENT 5
Handled duties in an outstanding manner	PRODUCTIVITY AND ACHIEVEMENT 5
Impressive discharge of duty	PRODUCTIVITY AND ACHIEVEMENT 4

PRODUCTIVITY AND ACHIEVEMENT (Continued)

Performed remarkably well	PRODUCTIVITY AND ACHIEVEMENT 4
Success in a difficult task	PRODUCTIVITY AND ACHIEVEMENT 3
Assignments are completed or completes assigned tasks	PRODUCTIVITY AND ACHIEVEMENT 3
Has seen these tasks through to their successful completion	PRODUCTIVITY AND ACHIEVEMENT 3
Effort brings a success	PRODUCTIVITY AND ACHIEVEMENT 3

Statements of improvement should be indexed as PRODUCTIVITY AND ACHIEVEMENT. For example:

Made significant improvements	PRODUCTIVITY AND ACHIEVEMENT 4
Made improvements	PRODUCTIVITY AND ACHIEVEMENT 3
Enabled him to improve	PRODUCTIVITY AND ACHIEVEMENT 3
Yielded benefits	PRODUCTIVITY AND ACHIEVEMENT 3
Room for improvement	PRODUCTIVITY AND ACHIEVEMENT 2

It is important to make certain that the achievement was not a personal technical accomplishment in which case TECHNICAL SKILLS would be used.

If a statement refers to the successful accomplishment of a maintenance effort and it is not the controlling function of ensuring the accomplishment of a plan, but rather the performance of a ratee's total job function, use PRODUCTIVITY AND ACHIEVEMENT. This can be determined by looking at the ratee's job title or main job duty as stated in Section 4A.

The following modifiers can serve as clues to labeling a statement or a phrase as PRODUCTIVITY AND ACHIEVEMENT: contributed greatly to (4), contributed immensely to (4), significant increase in (4), contributed materially to (4), directly responsible for (3), directly contributed to (3), has been instrumental in (3), directly instrumental in (3).

If a statement of personal achievement (e.g., advancement in rate) is made in a matter-of-fact manner, do not index it. However, if it is stated as an accomplishment, use PRODUCTIVITY AND ACHIEVEMENT. For example, "Ratee's performance in the past was responsible for his selection from every first class and chief petty officer in this command as Command Career Counselor." PRODUCTIVITY AND ACHIEVEMENT 5.

An ability *in* performing a task would be indexed as PRODUCTIVITY AND ACHIEVEMENT because it tells how the ratee is performing and, therefore, is a type of measure of his performance. However, an ability or skill *to* perform in a certain way suggests a future performance and would be indexed as SKILLS AND ABILITIES. For example, "His thoroughness in performing his duty is outstanding," PRODUCTIVITY AND ACHIEVEMENT 5; "Outstanding in his work," PRODUCTIVITY AND ACHIEVEMENT 5; "Chief XX is a performer," PRODUCTIVITY AND ACHIEVEMENT 3; "He performs in a capable manner," PRODUCTIVITY AND ACHIEVEMENT 3; "He has the ability to perform in an outstanding manner," SKILLS AND ABILITIES 5.

PROFESSIONALISM is the quality of being worthy of the high standards of the managerial profession and having much experience and great skill in this role. Use only when the word *professional* or *professionalism* is applied to the ratee and/or his performance and only when it is mentioned specifically in the narrative content of the Evaluation Report.

EXAMPLES:

Ratee has consistently demonstrated his outstanding professional qualifications.	PROFESSIONALISM 5
These accomplishments were achieved through high professionalism, enthusiasm, and superior decision-making ability.	PROFESSIONALISM 4 DRIVE 4 PLANNING 5
As an Airborne Communications Supervisor, ratee's professional competence has contributed to flight operations, excellent mission performance, and praise for his division.	PROFESSIONALISM 3 PRODUCTIVITY AND ACHIEVEMENT 5
His performance reflects competence and professionalism.	PRODUCTIVITY AND ACHIEVEMENT 3 SKILLS AND ABILITIES 3 PROFESSIONALISM 3
Chief XX was relieved of his duties as the ship's Oil King after serving in the capacity for approximately two months. He was removed from this billet because of his lack of professional knowledge and technical know-how in the art of refueling.	AWARDS AND PUNISHMENT 1 PROFESSIONALISM 2 TECHNICAL SKILLS 2

Additional Indexing Clues:

Professional attitude	PROFESSIONALISM 3 CONDUCT, INTEGRITY, AND PRIDE 4
Professional behavior	PROFESSIONALISM 3 CONDUCT, INTEGRITY, AND PRIDE 4
Professional administrator	PROFESSIONALISM 3 MANAGEMENT FUNCTIONS 4
Professional skill	PROFESSIONALISM 3

When the word *professional* modifies a *specific* skill, ability or function, it automatically gives a weight of 4 to that skill, ability or function.

When the word *professional* modifies skill or ability, use only the index term PROFESSIONALISM since this term is more specific than SKILLS AND ABILITIES and falls under SKILLS AND ABILITIES in the hierarchy of index terms.

RELIABILITY AND DEPENDABILITY is the combined quality of being counted upon to do what is expected or required without direct supervision or monitoring. Connotes levelheadedness or steadiness; includes *trustworthy*, *responsible*, *constancy*, *stability*, and *mature*.

EXAMPLES:

He is completely reliable and has never showed case by action or word to the contrary.	RELIABILITY AND DEPENDABILITY 5
He is conscientious and is always extremely dependable.	DRIVE 3 RELIABILITY AND DEPENDABILITY 5
Fully realizes his responsibilities and at all times consciously acts to fulfill them.	RELIABILITY AND DEPENDABILITY 4 RELIABILITY AND DEPENDABILITY 4
Ratee is very reliable.	RELIABILITY AND DEPENDABILITY 4
Ratee is punctual and can be depended upon to perform well regardless of the amount of supervision.	CONDUCT, INTEGRITY, AND PRIDE 3 RELIABILITY AND DEPENDABILITY 4
He can be depended upon to "get the job done" with a minimum of supervision.	RELIABILITY AND DEPENDABILITY 3
Ratee's inability to satisfactorily discharge his financial obligations shows a lack of responsibility.	CONDUCT, INTEGRITY, AND PRIDE 2 RELIABILITY AND DEPENDABILITY 2

Additional Indexing Clues:

Always ready to accept additional responsibility	RELIABILITY AND DEPENDABILITY 5
Willing to assume or accept added responsibility	RELIABILITY AND DEPENDABILITY 4
Works well on his own	RELIABILITY AND DEPENDABILITY 4
Completely reliable	RELIABILITY AND DEPENDABILITY 4
Job done without supervision	RELIABILITY AND DEPENDABILITY 3
Can work without direction	RELIABILITY AND DEPENDABILITY 3
Requires no supervision	RELIABILITY AND DEPENDABILITY 3
Dependable	RELIABILITY AND DEPENDABILITY 3

RELIABILITY AND DEPENDABILITY (Continued)

Stable	RELIABILITY AND DEPENDABILITY 3
Trustworthy	RELIABILITY AND DEPENDABILITY 3
Responsible	RELIABILITY AND DEPENDABILITY 3
Constancy	RELIABILITY AND DEPENDABILITY 3
Does not need to be supervised	RELIABILITY AND DEPENDABILITY 3
Performs without supervision	RELIABILITY AND DEPENDABILITY 3
Accepted responsibilities and authority	RELIABILITY AND DEPENDABILITY 3
Assumes added responsibilities	RELIABILITY AND DEPENDABILITY 3
Mature	RELIABILITY AND DEPENDABILITY 3
Reluctance to assume new tasks	RELIABILITY AND DEPENDABILITY 2
Need for direction and checkup by superiors	RELIABILITY AND DEPENDABILITY 2
Relinquishes responsibility	RELIABILITY AND DEPENDABILITY 2

It is important to remember when indexing that the concept of responsibility belongs under RELIABILITY AND DEPENDABILITY.

REPRESENTATION is the creating of an image of an organization to the external or internal environment.

EXAMPLES:

He is an outstanding representative of the Navy in all respects.	REPRESENTATION 5
Ratee has been very successful in improving his Branch Station's relations with local high schools and youth organizations.	REPRESENTATION 4
He takes an active part in church and civic programs, helping to uphold the Navy image in the community.	REPRESENTATION 4
The appearance of this building is a fine example and reflection of the Navy to the visiting civilians.	REPRESENTATION 4

Additional Indexing Clues:

Active in extracurricular activities	REPRESENTATION 4
Takes part in extracurricular activities	REPRESENTATION 3
Public relations for his branch	REPRESENTATION 3
Status of his branch or job area	REPRESENTATION 3

Remember that if a ratee's job title or main job duty is public relations, then the term PRODUCTIVITY AND ACHIEVEMENT would be used rather than REPRESENTATION since the statement would be referring to the performance of his total job function.

Some management experts do not consider REPRESENTATION to be a separate managerial function. However, in this dictionary it is considered to be a separate function because of the importance given to relating to the civilian community by Naval personnel.

If a ratee sets up a *liaison* with another organizational unit or division within the Navy or an outside organization, the index term ORGANIZATION would be used. However, if a ratee uses the *liaison* or organizational structure that is already set up to enhance his division's working relationship with other organizational units, the index term REPRESENTATION would be used. If a *liaison* is used as a channel of communication, then the index term USE OF COMMUNICATION would be used. The *rapport* that a ratee has with other organizational units also enhances his division's work, and the index term REPRESENTATION would be used. The *rapport* that a ratee has with his divisional personnel would be indexed with LEADERSHIP AND DIRECTING.

REPUTE is the position or standing of an individual in his relationships to subordinates, peers, and superiors.

EXAMPLES:

He possesses the character, personality, and desire that commands the highest respect and admiration from his associates.	CONDUCT, INTEGRITY, AND PRIDE 3 CONDUCT, INTEGRITY, AND PRIDE 3 DRIVE 3 REPUTE 5
This action has generated the highest degree of trust and confidence with his superiors.	REPUTE 5
He readily obtains the confidence of all who come in contact with him.	REPUTE 4
He is well liked and highly respected by juniors and seniors alike, and his easy-going manner and pleasant congeniality make him at home in any surroundings.	REPUTE 4 CONDUCT, INTEGRITY, AND PRIDE 3 COOPERATION 4 FLEXIBILITY 3
Ratee is highly regarded by all of his men.	REPUTE 4
He expresses himself clearly and logically and his views are respected by those with whom he works.	COMMUNICATION ? REPUTE 3

Additional Indexing Clues:

He has their full respect and gets it.	REPUTE 4
He is highly regarded by his men.	REPUTE 4
Gains the genuine respect	REPUTE 4
Praised	REPUTE 4
Inspires respect	REPUTE 3
Justified others' confidence in him	REPUTE 3
Commands respect and gets it	REPUTE 3
Expertise widely acknowledged and respected by others	TECHNICAL SKILLS 4 REPUTE 3
His advice is sought by others because of his technical skill.	REPUTE 3 TECHNICAL SKILLS 3

REPUTE (Continued)

Merits the respect	REPUTE 3
Generates respect	REPUTE 3
Respected by	REPUTE 3
Popular	REPUTE 3

Many of the feelings that a ratee's peers and superiors have for him would be indexed as REPUTE (e.g., being liked or trusted by his superiors). However, if it is the ratee's subordinates who have these same feelings, it would indicate the ratee's leadership abilities and be labeled as such (e.g., being liked or trusted by his men). If the words *respect* or *regard* are used, then automatically label this statement with REPUTE. For example, "His concern for his men has won the respect of his subordinates." LEADERSHIP AND DIRECTING 3; REPUTE 3.

The concept of a ratee's repute may appear in the narrative text under the guise of one or more descriptive phrases, but this segment of text should be treated as containing a single concept and be labeled only once with REPUTE. For example, "He is well liked and highly respected," would be treated as one phrase or concept and would be indexed only once with the index term REPUTE.

RESOURCEFULNESS is the innovative or creative ability to make effective and efficient use of men and materials resulting in improved performance.

EXAMPLES:

He has consistently demonstrated exceptional resourcefulness in dealing with especially complicated projects.	RESOURCEFULNESS 5
He makes the best use of all the resources at his command.	RESOURCEFULNESS 5
A direct indication of the Ratee's resourcefulness is indicated in the fact that he insists on obtaining maximum utilization of the Navy's training material.	RESOURCEFULNESS 3 RESOURCEFULNESS 5
Since the turnover of these modules is high, this represents a significant savings to the Navy's resources.	RESOURCEFULNESS 4
He has demonstrated a remarkable ability for substituting components or test equipment that might be temporarily unavailable.	RESOURCEFULNESS 4
In his area of responsibility he requires that consumable modules be repaired and reused.	RESOURCEFULNESS 3
Chief XX is a resourceful man and his potential is great to become an even better Chief.	RESOURCEFULNESS 3 POTENTIAL 4
His imagination allows him to find new and different solutions to problems which others do not seem to be able to solve.	RESOURCEFULNESS 3 INTELLECTUAL FUNCTIONING 4

Additional Indexing Clues:

Always resourceful	RESOURCEFULNESS 4
Fully utilizes his men	RESOURCEFULNESS 4
Inventiveness	RESOURCEFULNESS 3
Imagination	RESOURCEFULNESS 3
Ingenuity	RESOURCEFULNESS 3

RESPONSIVENESS is the quality of reacting promptly, readily, accurately, and alertly to suggestion, instruction, or orders.

EXAMPLES:

Ratee is extremely cooperative in all his undertakings when given any task, and completes it in the most expeditious manner.	COOPERATION 5 RESPONSIVENESS 5
He is quick to respond to any situation or problem and to find a solution.	RESPONSIVENESS 4 INTELLECTUAL FUNCTIONING 3
He uncomplainingly responds when called upon to meet unscheduled commitments, frequently under adverse conditions.	RESPONSIVENESS 4 ENDURANCE 3
He is responsive and agreeable to demands upon him and constantly seeks ways of improving working conditions and morale.	RESPONSIVENESS 3 COOPERATION 3 LEADERSHIP AND DIRECTING 4

Additional Indexing Clues:

Alertness is usually considered to be a part of intellectual functioning. However, if a statement refers to a ratee's alertness to an order, then consider it to be a responsive gesture on the part of the ratee.

When in doubt about whether a statement constitutes a cooperative or responsible attitude as opposed to responsiveness on the part of the ratee, use either COOPERATION or RELIABILITY AND DEPENDABILITY rather than RESPONSIVENESS.

Always use the index term RESPONSIVENESS whenever the word *responds* is used in a statement.

The time element is an important clue to the use of this term and, therefore, would be used to label the following examples:

In a minimum of time	RESPONSIVENESS 5
He carries out all assignments expediently and efficiently.	RESPONSIVENESS 4 PRODUCTIVITY AND ACHIEVEMENT 4
He meets his responsibilities and quotas in a timely manner.	RESPONSIVENESS 3
Ratee presented material to the students in an expeditious manner.	RESPONSIVENESS 3

SERVICE MOTIVATION refers to a serviceman's contentment with life in the Navy, or to his desire or lack of desire to fulfill his commitment to his job duties in the Navy.

EXAMPLES:

He is extremely dedicated to his division, department, and ship.	SERVICE MOTIVATION 5
He is an active Navy promoter and is the first to step forward to educate subordinates on Navy policy, procedures, or benefits.	SERVICE MOTIVATION 4 SERVICE MOTIVATION 4
Ratee always wears his uniform with pride, both on and off the ship.	SERVICE MOTIVATION 4
He exhibits pride in being part of this command and is a definite asset to the Naval service.	SERVICE MOTIVATION 3 ASSET TO THE NAVY 4
He is a dedicated career man who displays pride in the Navy and the Squadron.	SERVICE MOTIVATION 3 SERVICE MOTIVATION 3

Additional Indexing Clues:

The ratee always has the best interests of the Navy in mind.	SERVICE MOTIVATION 5
Pride in the Navy	SERVICE MOTIVATION 3
Pride in his unit	SERVICE MOTIVATION 3
Dedication or devotion to duty	SERVICE MOTIVATION 3
Loyal to duty and men	SERVICE MOTIVATION 3
Enjoying his work	SERVICE MOTIVATION 3

SKILLS AND ABILITIES are those qualities that influence the producing of a desired result in an efficient and effective manner.

EXAMPLES:

He is able to direct the efforts of Line Personnel in an efficient and effective manner; this is reflected in the Ratee by a multiple of exceptional qualities.	LEADERSHIP AND DIRECTING 4 SKILLS AND ABILITIES 5
This man is extremely competent.	SKILLS AND ABILITIES 5
Above average in all areas, he is fully qualified to assume the greater responsibility of the next higher rank.	SKILLS AND ABILITIES 4 SKILLS AND ABILITIES 4 POTENTIAL 3
He daily demonstrates all of the highly desirable traits of a Chief Petty Officer.	SKILLS AND ABILITIES 4
Ratee is very meticulous and thorough.	SKILLS AND ABILITIES 4 SKILLS AND ABILITIES 4
His natural abilities and responsible approach to recruiting have enabled the ratee to outperform his contemporaries.	SKILLS AND ABILITIES 3 RELIABILITY AND DEPENDABILITY 3 PRODUCTIVITY AND ACHIEVEMENT 4

Additional Indexing Clues:

Exceptionally well qualified	SKILLS AND ABILITIES 5
Outstanding individual	SKILLS AND ABILITIES 5
Well-qualified Supervisor	SKILLS AND ABILITIES 4
Efficient	SKILLS AND ABILITIES 4

Any mention of managerial or administrative abilities would be labeled MANAGEMENT FUNCTIONS.

SKILLS AND ABILITIES is used as a catchall term for those skills and abilities which do not fit any of the more specific index terms that come under SKILLS AND ABILITIES in the hierarchy. The following terms would be labeled under SKILLS AND ABILITIES since there is no other more specific index term that would describe them: qualities, skills, traits, attention to detail, meticulous, thorough, methodical, competent, capable, decisiveness, deliberate in thinking (deliberate in action would be indexed as CONDUCT, INTEGRITY, AND PRIDE), and talented.

STAFFING is the manning of and keeping manned the positions provided for by the organization structure. Includes *training* and the *appraisal* or *assessment of personnel.*

EXAMPLES:

His instructions are presented in such a manner that maximum training is accomplished in the time alloted.	COMMUNICATION 3 STAFFING 5
He spent a great deal of extra time with his men and turned out well trained, well motivated men for the fleet.	LEADERSHIP AND DIRECTING 4 STAFFING 4 LEADERSHIP AND DIRECTING 4
He is continually researching the available training and ensuring that assigned personnel have what is needed.	STAFFING 4 CONTROLLING 4
Ratee has tutored division personnel in all aspects of the Navy publications system.	STAFFING 3

Additional Indexing Clues:

Men re-enlist	STAFFING 3

The manning of and keeping manned the job positions would involve selection, training, and the compensation of personnel in order to keep them in the Navy. It is important to remember that if the main job duty is recruiting, then usually a statement about manning of and keeping manned positions in the Navy would be the result of a ratee's total management function, and hence would be indexed as PRODUCTIVITY AND ACHIEVEMENT.

TECHNICAL SKILLS refer to the understanding and demonstration of techniques which one applies to a task.

EXAMPLES:

The ratee has an outstanding knowledge of all Electrical Drone Systems in the squadron aircraft.	TECHNICAL SKILLS 5
BTC has an excellent working and practical knowledge of the PMS system but has a tendency to be lax in the administrative phase of the system.	TECHNICAL SKILLS 5 MANAGEMENT FUNCTIONS 2
He is well versed in the 3-M System and always exhibits sound management practices.	TECHNICAL SKILLS 4 MANAGEMENT FUNCTIONS 4
Ratee single-handedly tore down and rebuilt an engine in 16 hours so the ship would be ready for the cruise.	TECHNICAL SKILLS 4
He is a very knowledgeable technician who attempts to keep constantly abreast of current changes by devoting his off duty time to the study of technical and nontechnical material through evening college courses.	TECHNICAL SKILLS 4 DRIVE 5
His technical competence and resourcefulness contribute to ships in tending to maintain operational readiness.	TECHNICAL SKILLS 3 RESOURCEFULNESS 3 PRODUCTIVITY AND ACHIEVEMENT 3
Chief XX was relieved of his duties as the ship's Oil King after serving in the capacity for approximately two months. He was removed from this billet because of his lack of professional knowledge and technical know-how in the art of refueling.	AWARDS AND PUNISHMENT 1 PROFESSIONALISM 2 TECHNICAL SKILLS 2

Additional Indexing Clues:

Expertise widely acknowledged	TECHNICAL SKILLS 4 REPUTE 4
Professional knowledge	PROFESSIONALISM 3 TECHNICAL SKILLS 4

TECHNICAL SKILLS (Continued)

The following would be indexed as TECHNICAL SKILLS 3: background, knowledge of the responsibility of the rate, technical skills, technical knowledge, understanding of job duties, experience, understanding of work, "know-how."

The technical skills that a ratee possesses may be referred to by the evaluator with one or more descriptive phrases, but this part of the sentence should be treated as a single entity and labeled only once with TECHNICAL SKILLS. For example, "...his lack of professional knowledge and technical know-how in the art of refueling...." PROFESSIONALISM 2; TECHNICAL SKILLS 2.

If the skill or knowledge is in managing or in one of the specific managerial functions, just use MANAGEMENT FUNCTIONS or the specific function as the label. For example, "He is skilled at managing his men," would be indexed as LEADERSHIP AND DIRECTING 3.

In the original version of this dictionary there was a term FUND OF KNOWLEDGE which was replaced by TECHNICAL SKILLS since managers at a junior level have technical as well as managerial functions. This is the reason why such phrases as "understanding of job duties, experience, and understanding of work" are labeled as TECHNICAL SKILLS. It is important to keep this term in mind and to discriminate between managerial functions and productivity or achievement as opposed to the demonstration of a technical skill.

When a ratee is in the process of acquiring new knowledge or a new skill, it would be an indication of his drive and be labeled as such. The indexer should not use TECHNICAL SKILLS unless the ratee has finished the course and, therefore, already has the knowledge or skill.

USE OF COMMUNICATION is the use an individual makes of the opportunities for information exchange within an organization.

SEE ALSO: COMMUNICATION

EXAMPLES:

He is an excellent administrator and a skillful supervisor, and he keeps himself and his superiors fully informed of all facets of his branch's operation.	MANAGEMENT FUNCTIONS 5 LEADERSHIP AND DIRECTING 4 USE OF COMMUNICATION 5
He always keeps his superiors informed of any problems and the status of work in progress.	USE OF COMMUNICATION 5
Ratee always consults with his Division Officer concerning his wishes on a matter, unless time is essential.	USE OF COMMUNICATION 4
He keeps his seniors alerted to pending problems.	USE OF COMMUNICATION 3

Additional Indexing Clues:

Keeps superior well informed	USE OF COMMUNICATION 4
Uses communication to arouse interest, convince, and produce desired results	USE OF COMMUNICATION 3

This term is used *not* to indicate how a ratee communicates, but whether or not he uses his ability to communicate for the purpose of information exchange.

If a ratee sets up a *liaison* with another organizational unit or division within the Navy or an outside organization, the index term ORGANIZATION would be used. However, if a ratee uses the *liaison* or organizational structure that is already set up to enhance his division's working relationship with other organizational units, the index term REPRESENTATION would be used. If a *liaison* is used as a channel of communication, then the index term USE OF COMMUNICATION would be used.

APPENDIX B

OUTPUT FROM PROGRAM BMD01D - SIMPLE DATA DESCRIPTION FOR THE CROSS VALIDATION AND GENERALIZATION SAMPLES

The output of this computer program lists the arithmetic mean, the standard deviation, the standard error of the mean, the maximum value, the minimum value, and the range for each of the 67 variables derived from the content analysis. The output is presented in six parts for each of the two samples. First is shown the output for the Upper, Middle, and Lower criterion groups on the evaluation section of the Evaluation Report. This is followed by the output for the Upper, Middle, and Lower criterion groups on the justification section of the Evaluation Report.

CROSS VALIDATION SAMPLE (AT's and BT's)
UPPER CRITERION GROUP (N=74)
19R-EVALUATION SECTION

No. of Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
1	0.3649	0.5382	0.0626	2	0	2
2	0.1351	0.5054	0.0588	3	0	3
3	0.5946	0.9920	0.1153	4	0	4
4	0.0811	0.2748	0.0319	1	0	1
5	0.0541	0.2277	0.0265	1	0	1
6	0.0811	0.3208	0.0373	2	0	2
7	0.0676	0.2527	0.0294	1	0	1
8	0.0135	0.1162	0.0135	1	0	1
9	0.4459	0.6650	0.0773	3	0	3
10	0.1757	0.4490	0.0522	2	0	2
11	0.6486	1.1157	0.1297	5	0	5
12	0.0946	0.2947	0.0343	1	0	1
13	0.1216	0.3291	0.0383	1	0	1
14	0.0541	0.2277	0.0265	1	0	1
15	0.0811	0.3208	0.0373	2	0	2
16	0.1486	0.3946	0.0459	2	0	2
17	0.2297	0.6092	0.0708	3	0	3
18	0.2838	0.5618	0.0653	3	0	3
19	0.2973	0.6133	0.0713	3	0	3
20	0.0676	0.2527	0.0294	1	0	1
21	0.0811	0.4898	0.0569	4	0	4
22	0.6216	0.9320	0.1083	3	0	3
23	1.3108	1.2488	0.1452	4	0	4
24	0.2297	0.4839	0.0563	2	0	2
25	1.1622	1.4807	0.1721	6	0	6
26	0.2297	0.5376	0.0625	3	0	3
27	0.3649	0.5631	0.0655	2	0	2
28	0.2297	0.6092	0.0708	3	0	3
29	0.0676	0.2527	0.0294	1	0	1
30	8.2027	5.4446	0.6329	23	0	23
31	10.9594	1.4471	0.1682	15	10	5
32	10.2838	1.0793	0.1255	17	10	7
33	11.2838	2.1677	0.2520	19	10	9
34	10.1757	0.6050	0.0703	13	10	3
35	10.0676	0.3021	0.0351	12	10	2
36	10.1757	0.6896	0.0802	14	10	4
37	10.1757	0.6896	0.0802	14	10	4
38	10.0135	0.1162	0.0135	11	10	1
39	10.8243	1.2091	0.1406	14	10	4
40	10.3919	1.0179	0.1183	15	10	5
41	11.3378	2.6394	0.3068	23	10	13
42	10.2027	0.6617	0.0769	13	10	3
43	10.2027	0.6189	0.0719	13	10	3

(Continued)

CROSS VALIDATION SAMPLE (AT's and BT's)
UPPER CRITERION GROUP (N=74)
19R-EVALUATION SECTION
(Continued)

No. Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
44	10.0946	0.4432	0.0515	13	10	3
45	10.2027	0.8755	0.1018	16	10	6
46	10.2838	0.8027	0.0933	13	10	3
47	10.4324	1.2172	0.1415	15	10	5
48	10.5000	1.0885	0.1265	16	10	6
49	10.6216	1.4306	0.1663	18	10	8
50	10.1216	0.5222	0.0607	13	10	3
51	10.1216	0.6815	0.0792	15	10	5
52	11.3784	2.1752	0.2529	19	10	9
53	13.0811	2.9319	0.3408	21	10	11
54	10.6892	1.4517	0.1688	16	10	6
55	12.1621	3.0611	0.3558	25	10	15
56	10.4594	1.1842	0.1377	17	10	7
57	10.6216	1.0028	0.1166	14	10	4
58	10.5000	1.3574	0.1578	17	10	7
59	10.1351	0.5570	0.0648	13	10	3
60	306.1311	17.0533	1.9824	336	201	135
61	2.7432	2.4942	0.2899	11	0	11
62	3.6486	2.7718	0.3222	12	0	12
63	1.9459	2.0197	0.2348	7	0	7
64	0.0000	0.0000	0.0000	0	0	0
65	0.0000	0.0000	0.0000	0	0	0
66	78.3376	49.0724	5.7045	212	0	212
67	5.6081	3.3508	0.3895	14	0	14

CROSS VALIDATION SAMPLE (AT's and BT's)
MIDDLE CRITERION GROUP (N=74)
19R-EVALUATION SECTION

No. of Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
1	0.3108	0.5471	0.0636	2	0	2
2	0.2162	0.5040	0.0586	2	0	2
3	1.0000	1.2928	0.1503	4	0	4
4	0.2297	0.5376	0.0625	2	0	2
5	0.1216	0.3291	0.0383	1	0	1
6	0.0811	0.2748	0.0319	1	0	1
7	0.0676	0.3021	0.0351	2	0	2
8	0.0405	0.1986	0.0231	1	0	1
9	0.3919	0.7552	0.0878	4	0	4
10	0.3108	0.5951	0.0692	3	0	3
11	1.1892	1.9492	0.2266	9	0	9
12	0.4595	0.7437	0.0865	4	0	4
13	0.1081	0.3126	0.0363	1	0	1
14	0.0946	0.3380	0.0393	2	0	2
15	0.2297	0.4235	0.0492	1	0	1
16	0.2162	0.4145	0.0482	1	0	1
17	0.3649	0.7134	0.0829	3	0	3
18	0.2162	0.4463	0.0519	2	0	2
19	0.3514	0.6066	0.0705	2	0	2
20	0.2568	0.5748	0.0668	3	0	3
21	0.0405	0.1986	0.0231	1	0	1
22	0.7162	0.7855	0.0913	3	0	3
23	0.9189	0.9029	0.1050	3	0	3
24	0.0946	0.2947	0.0343	1	0	1
25	1.0135	1.1526	0.1340	5	0	5
26	0.3378	0.5558	0.0646	2	0	2
27	0.4459	0.6853	0.0797	3	0	3
28	0.2432	0.5442	0.0633	2	0	2
29	0.1486	0.3582	0.0416	1	0	1
30	10.0811	5.6052	0.6516	25	0	25
31	10.7027	1.2576	0.1462	15	10	5
32	10.4054	0.9497	0.1104	14	10	4
33	11.9189	2.6881	0.3125	19	10	9
34	10.4054	0.9640	0.1121	14	10	4
35	10.2297	0.6313	0.0734	12	10	2
36	10.1486	0.5150	0.0599	12	10	2
37	10.1351	0.6688	0.0777	15	10	5
38	10.0811	0.4303	0.0500	13	10	3
39	10.7297	1.5641	0.1818	20	10	10
40	10.6081	1.1799	0.1372	16	10	6
41	11.6351	2.8649	0.3330	22	5	17
42	10.8919	1.7405	0.2023	20	10	10
43	10.2432	0.7367	0.0856	13	10	3

(Continued)

CROSS VALIDATION SAMPLE (AT's and BT's)
MIDDLE CRITERION GROUP (N=74)
19R-EVALUATION SECTION
(Continued)

No. of Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
44	10.1351	0.5811	0.0675	13	9	4
45	10.3919	0.7907	0.0919	13	10	3
46	10.2838	0.6086	0.0708	13	10	3
47	10.6621	1.3677	0.1590	17	10	7
48	10.4324	1.0347	0.1203	16	10	6
49	10.4459	0.9529	0.1108	14	8	6
50	10.4054	0.9054	0.1052	13	10	3
51	10.0405	0.1986	0.0231	11	10	1
52	11.2973	1.5055	0.1750	17	10	7
53	12.0270	2.0672	0.2403	17	10	7
54	10.2838	0.8840	0.1028	13	10	3
55	11.8243	2.1155	0.2459	20	10	10
56	10.5540	0.9951	0.1157	14	10	4
57	10.8784	1.4893	0.1731	18	10	8
58	10.4054	0.9351	0.1087	14	10	4
59	10.2703	0.7639	0.0888	13	9	4
60	308.4282	10.3687	1.2053	337	289	48
61	2.1216	2.0604	0.2395	12	0	12
62	4.3784	3.1740	0.3690	13	0	13
63	3.5270	2.7259	0.3169	11	0	11
64	0.1892	1.0813	0.1257	9	0	9
65	0.0000	0.0000	0.0000	0	0	0
66	86.5808	42.8689	4.9834	214	0	214
67	7.1621	3.2011	0.3721	15	0	15

CROSS VALIDATION SAMPLE (AT's and BT's)
LOWER CRITERION GROUP (N=74)
19R-EVALUATION SECTION

No. of Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
1	0.2703	0.5047	0.0587	2	0	2
2	0.1892	0.4586	0.0533	2	0	2
3	0.7973	1.2048	0.1401	8	0	8
4	0.2162	0.5304	0.0617	3	0	3
5	0.1216	0.3291	0.0383	1	0	1
6	0.1081	0.3906	0.0454	2	0	2
7	0.1081	0.3537	0.0411	2	0	2
8	0.0270	0.1633	0.0190	1	0	1
9	0.3108	0.5471	0.0636	2	0	2
10	0.2297	0.4547	0.0529	2	0	2
11	1.0946	1.5891	0.1847	7	0	7
12	0.2027	0.4048	0.0471	1	0	1
13	0.0946	0.2947	0.0343	1	0	1
14	0.0541	0.2277	0.0265	1	0	1
15	0.2027	0.4373	0.0508	2	0	2
16	0.2297	0.5114	0.0595	3	0	3
17	0.1757	0.5063	0.0589	2	0	2
18	0.0676	0.2527	0.0294	1	0	1
19	0.4730	0.6667	0.0775	3	0	3
20	0.1081	0.3906	0.0454	2	0	2
21	0.1622	0.4388	0.0510	2	0	2
22	0.9459	1.3838	0.1609	7	0	7
23	1.3513	1.1033	0.1283	5	0	5
24	0.0541	0.2815	0.0327	2	0	2
25	0.9189	1.2688	0.1475	5	0	5
26	0.1757	0.4785	0.0556	2	0	2
27	0.[illegible]35	0.6462	0.0751	2	0	2
28	0.1757	0.4174	0.0485	2	0	2
29	0.1351	0.3442	0.0400	1	0	1
30	9.5135	5.1398	0.5975	26	0	26
31	10.4865	1.0758	0.1251	14	9	5
32	10.2703	0.8648	0.1005	14	9	5
33	11.0270	1.8798	0.2185	19	8	11
34	10.2027	0.8273	0.0962	13	7	6
35	10.2297	0.6733	0.0783	13	10	3
36	10.2027	0.7211	0.0838	14	10	4
37	10.1216	0.6400	0.0744	14	9	5
38	10.0270	0.1633	0.0190	11	10	1
39	10.4189	0.8760	0.1018	14	9	5
40	10.3784	0.8712	0.1013	13	9	4
41	11.3243	2.4049	0.2796	25	9	16
42	10.2973	0.6565	0.0763	13	10	3
43	10.1757	0.6050	0.0703	13	10	3

(Continued)

CROSS VALIDATION SAMPLE (AT's and BT's)
LOWER CRITERION GROUP (N=74)
19R-EVALUATION SECTION
(Continued)

No. of Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
44	10.0405	0.3070	0.0357	12	9	3
45	10.2432	0.6582	0.0765	13	9	4
46	10.2162	0.8321	0.0967	15	9	6
47	10.3108	0.9352	0.1087	15	10	5
48	10.1081	0.4553	0.0529	13	10	3
49	10.5676	1.0609	0.1233	14	7	7
50	10.1216	0.6611	0.0769	15	9	6
51	10.2973	0.8231	0.0957	14	10	4
52	11.6621	2.3366	0.2716	20	10	10
53	12.2973	2.2618	0.2629	18	9	9
54	10.0946	0.8137	0.0946	16	8	8
55	11.3919	2.1696	0.2522	19	8	11
56	10.3108	0.9641	0.1121	15	10	5
57	10.7973	1.3546	0.1575	15	9	6
58	10.2027	0.7018	0.0816	14	9	5
59	10.2297	0.6313	0.0734	13	10	3
60	304.0640	8.6142	1.0014	329	290	39
61	1.1351	1.4835	0.1724	6	0	6
62	4.2432	2.7339	0.3178	11	0	11
63	3.1621	2.5537	0.2969	13	0	13
64	0.9595	2.0703	0.2407	12	0	12
65	0.0135	0.1162	0.0135	1	0	1
66	87.1889	46.2204	5.3730	287	0	287
67	6.5135	2.9759	0.3459	16	0	16

CROSS VALIDATION SAMPLE (AT's and BT's)
UPPER CRITERION GROUP (N=74)
19S-JUSTIFICATION SECTION

No. of Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
1	0.4459	0.7242	0.0842	3	0	3
2	0.7703	1.3902	0.1616	8	0	8
3	1.9459	1.9295	0.2243	8	0	8
4	0.1757	0.4785	0.0556	3	0	3
5	0.4054	0.7570	0.0880	3	0	3
6	0.1216	0.3684	0.0428	2	0	2
7	0.2568	0.7034	0.0818	4	0	4
8	0.0946	0.4111	0.0478	3	0	3
9	0.8378	1.0207	0.1187	4	0	4
10	1.1757	1.3279	0.1544	5	0	5
11	2.0676	1.9885	0.2312	7	0	7
12	0.5541	0.8299	0.0965	3	0	3
13	0.2838	0.5369	0.0624	2	0	2
14	0.0946	0.3763	0.0437	2	0	2
15	0.7432	1.1234	0.1306	5	0	5
16	0.6351	0.8533	0.0992	4	0	4
17	0.4324	0.8771	0.1020	5	0	5
18	0.5270	0.7257	0.0844	3	0	3
19	1.0000	1.0598	0.1232	5	0	5
20	0.5676	0.8614	0.1001	3	0	3
21	0.5135	0.7629	0.0887	4	0	4
22	1.5270	1.7059	0.1983	8	0	8
23	2.5676	2.2639	0.2632	14	0	14
24	0.1081	0.3537	0.0411	2	0	2
25	2.2162	2.2224	0.2583	10	0	10
26	0.3784	0.6559	0.0762	3	0	3
27	1.1622	1.0207	0.1187	4	0	4
28	0.3649	0.6939	0.0807	3	0	3
29	0.4189	0.6826	0.0793	3	0	3
30	22.3916	14.7358	1.7130	91	5	86
31	11.0270	1.7039	0.1981	18	10	8
32	11.3919	2.3456	0.2727	23	10	13
33	13.9054	3.8327	0.4455	28	10	18
34	10.2297	0.6313	0.0734	13	10	3
35	10.8243	1.5907	0.1849	18	10	8
36	10.2838	0.8840	0.1028	15	10	5
37	10.4459	1.2836	0.1492	18	10	8
38	10.1216	0.4953	0.0576	13	10	3
39	11.5405	2.0419	0.2374	17	10	7
40	12.4730	2.7708	0.3221	20	10	10
41	13.8513	3.6440	0.4236	23	10	13
42	11.1486	1.8408	0.2140	18	10	8
43	10.5000	1.1257	0.1309	16	10	6

CROSS VALIDATION SAMPLE (AT's and BT's)
UPPER CRITERION GROUP (N=74)
19S-JUSTIFICATION SECTION

No. of Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
44	10.1757	0.7468	0.0868	15	10	5
45	11.5811	2.4214	0.2815	20	10	10
46	11.0000	1.5170	0.1764	17	10	7
47	10.7162	1.6346	0.1900	19	10	9
48	10.9459	1.3936	0.1620	15	10	5
49	11.9594	2.1672	0.2518	18	10	8
50	10.9865	1.5746	0.1830	17	10	7
51	10.6892	1.3742	0.1597	20	10	10
52	13.1216	3.4915	0.4059	28	10	18
53	15.5811	4.6435	0.5398	39	10	29
54	10.3243	1.0612	0.1234	16	10	6
55	14.0946	4.1814	0.4861	28	10	18
56	10.5946	1.0844	0.1261	15	10	5
57	12.4730	2.3827	0.2770	19	10	9
58	10.5676	1.0990	0.1278	15	10	5
59	10.7703	1.2985	0.1510	15	10	5
60	333.3606	27.1629	3.1576	449	299	150
61	6.8648	10.7707	1.2521	91	0	91
62	9.9730	8.5303	0.9916	59	0	59
63	7.1351	6.7221	0.7814	44	0	44
64	0.0000	0.0000	0.0000	0	0	0
65	0.0000	0.0000	0.0000	0	0	0
66	201.4052	146.3721	17.0154	896	35	861
67	11.6081	4.8224	0.5606	27	4	23

CROSS VALIDATION SAMPLE (AT's and BT's)
MIDDLE CRITERION GROUP (N=74)
19S-JUSTIFICATION SECTION

No. of Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
1	0.3919	0.5690	0.0661	2	0	2
2	0.5135	1.0369	0.1205	7	0	7
3	1.5540	1.9525	0.2270	7	0	7
4	0.2162	0.5040	0.0586	2	0	2
5	0.3784	0.8227	0.0956	4	0	4
6	0.1622	0.5740	0.0667	4	0	4
7	0.1486	0.4588	0.0533	3	0	3
8	0.0676	0.3021	0.0351	2	0	2
9	0.3919	0.6583	0.0765	2	0	2
10	0.7973	1.3846	0.1610	9	0	9
11	2.0000	2.1390	0.2487	9	0	9
12	0.4595	0.7797	0.0906	3	0	3
13	0.0946	0.2947	0.0343	1	0	1
14	0.0811	0.2748	0.0319	1	0	1
15	0.6081	0.8730	0.1015	4	0	4
16	0.3919	0.6153	0.0715	2	0	2
17	0.2568	0.5250	0.0610	2	0	2
18	0.2838	0.5618	0.0653	2	0	2
19	0.7432	0.9801	0.1139	4	0	4
20	0.4730	1.1494	0.1336	9	0	9
21	0.2703	0.6259	0.0728	3	0	3
22	0.7432	1.0076	0.1171	5	0	5
23	1.4865	1.4358	0.1669	7	0	7
24	0.0405	0.1986	0.0231	1	0	1
25	1.6892	1.7354	0.2017	7	0	7
26	0.2162	0.5304	0.0617	2	0	2
27	0.7838	0.9107	0.1059	3	0	3
28	0.2703	0.6036	0.0702	3	0	3
29	0.1757	0.4174	0.0485	2	0	2
30	15.6890	9.5657	1.1120	44	1	43
31	11.0270	1.4709	0.1710	15	10	5
32	10.9594	1.9120	0.2223	23	10	13
33	12.8919	3.7106	0.4314	25	10	15
34	10.3919	0.9482	0.1102	14	[illegible]	4
35	10.6216	1.3619	0.1583	17	[illegible]	7
36	10.3784	1.3314	0.1548	19	10	9
37	10.2297	0.7503	0.0872	15	10	5
38	10.1216	0.5722	0.0665	14	10	4
39	10.6216	1.1312	0.1315	14	10	4
40	11.5946	2.6062	0.3030	23	10	13
41	13.6081	3.6067	0.4193	26	10	16
42	10.9324	1.7621	0.2048	19	10	9
43	10.2162	0.7266	0.0845	13	10	3

CROSS VALIDATION SAMPLE (AT's and BT's)
MIDDLE CRITERION GROUP (N=74)
19S-JUSTIFICATION SECTION
(Continued)

No. of Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
44	10.1351	0.5054	0.0588	13	10	3
45	11.3243	1.8215	0.2118	17	10	7
46	10.5811	1.1468	0.1333	16	9	7
47	10.4459	0.9672	0.1124	14	10	4
48	10.5270	1.0882	0.1265	14	10	4
49	11.3378	1.8820	0.2188	17	10	7
50	10.8513	1.8556	0.2157	23	10	13
51	10.4459	1.1121	0.1293	16	10	6
52	11.2297	1.7324	0.2014	17	10	7
53	13.1486	3.2966	0.3832	25	10	15
54	10.1216	0.5957	0.0692	13	10	3
55	12.9594	3.4855	0.4052	27	9	18
56	10.4054	1.0326	0.1200	15	10	5
57	11.4594	1.7532	0.2038	17	10	7
58	10.4459	1.0222	0.1188	15	10	5
59	10.3243	0.8775	0.1020	15	10	5
60	319.3337	17.1500	1.9936	371	292	79
61	3.5811	2.7548	0.3202	13	0	13
62	6.5676	4.4846	0.5213	21	1	20
63	5.5135	4.7405	0.5511	18	0	18
64	0.0270	0.2325	0.0270	2	0	2
65	0.0000	0.0000	0.0000	0	0	0
66	146.5944	124.8155	14.5095	820	17	803
67	9.1621	4.3132	0.5014	19	1	18

CROSS VALIDATION SAMPLE (AT's and BT's)
LOWER CRITERION GROUP (N=74)
19S-JUSTIFICATION SECTION

No. of Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
1	0.0541	0.2815	0.0327	2	0	2
2	0.0135	0.1162	0.0135	1	0	1
3	0.2027	0.6406	0.0745	4	0	4
4	0.0405	0.1986	0.0231	1	0	1
5	0.0405	0.1986	0.0231	1	0	1
6	0.0270	0.2325	0.0270	2	0	2
7	0.0135	0.1162	0.0135	1	0	1
8	0.0000	0.0000	0.0000	0	0	0
9	0.0270	0.1633	0.0190	1	0	1
10	0.1757	0.5578	0.0648	3	0	3
11	0.2838	0.6728	0.0782	3	0	3
12	0.1081	0.4242	0.0493	3	0	3
13	0.0270	0.1633	0.0190	1	0	1
14	0.0135	0.1162	0.0135	1	0	1
15	0.1892	0.6553	0.0762	5	0	5
16	0.0676	0.3021	0.0351	2	0	2
17	0.1081	0.4553	0.0529	3	0	3
18	0.0135	0.1162	0.0135	1	0	1
19	0.1081	0.4242	0.0493	2	0	2
20	0.0676	0.3021	0.0351	2	0	2
21	0.0270	0.1633	0.0190	1	0	1
22	0.1216	0.3684	0.0428	2	0	2
23	0.0946	0.3380	0.0393	2	0	2
24	0.0135	0.1162	0.0135	1	0	1
25	0.1351	0.4480	0.0521	2	0	2
26	0.0405	0.1986	0.0231	1	0	1
27	0.0946	0.3763	0.0437	2	0	2
28	0.0135	0.1162	0.0135	1	0	1
29	0.0405	0.1986	0.0231	1	0	1
30	2.1621	3.5809	0.4163	16	0	16
31	10.1216	0.6611	0.0769	15	10	5
32	10.0135	0.1162	0.0135	11	10	1
33	10.3919	1.3830	0.1608	20	10	10
34	10.0946	0.5012	0.0583	13	10	3
35	10.0676	0.3445	0.0400	12	10	2
36	10.0676	0.5812	0.0676	15	10	5
37	10.0270	0.2325	0.0270	12	10	2
38	10.0000	0.0000	0.0000	10	10	0
39	10.0540	0.3661	0.0426	13	10	3
40	10.3513	1.2212	0.1420	16	9	7
41	10.5946	1.5432	0.1794	17	9	8
42	10.2297	0.8528	0.0991	15	10	5
43	10.0676	0.4165	0.0484	13	10	3

(Continued)

CROSS VALIDATION SAMPLE (AT's and BT's)
LOWER CRITERION GROUP (N=74)
19S-JUSTIFICATION SECTION
(Continued)

No. of Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
44	10.0405	0.3487	0.0405	13	10	3
45	10.4730	1.5280	0.1776	21	10	11
46	10.1081	0.5381	0.0625	14	10	4
47	10.2162	0.9547	0.1110	17	10	7
48	10.0270	0.2325	0.0270	12	10	2
49	10.2703	1.0765	0.1251	16	10	6
50	10.1351	0.6265	0.0728	14	10	4
51	10.0540	0.3265	0.0380	12	10	2
52	10.2162	0.6677	0.0776	13	10	3
53	10.1621	0.5974	0.0694	13	10	3
54	9.9730	0.2325	0.0270	10	8	2
55	10.2297	0.7503	0.0872	14	10	4
56	10.0811	0.3971	0.0462	12	10	2
57	10.1486	0.6123	0.0712	14	10	4
58	10.0405	0.3487	0.0405	13	10	3
59	10.0676	0.3822	0.0444	13	10	3
60	294.1848	6.8917	0.8011	324	287	37
61	0.6486	1.2212	0.1420	7	0	7
62	0.9595	1.8464	0.2146	10	0	10
63	0.5135	1.0500	0.1221	5	0	5
64	0.0270	0.1633	0.0190	1	0	1
65	0.0135	0.1162	0.0135	1	0	1
66	17.6754	27.2311	3.1656	112	0	112
67	1.6081	2.4372	0.2833	9	0	9

GENERALIZATION SAMPLE (CS's and RM's)
UPPER CRITERION GROUP (N=74)
19R-EVALUATION SECTION

No. of Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
1	0.2973	0.5163	0.0600	2	0	2
2	0.3378	0.8802	0.1023	4	0	4
3	0.9054	1.4634	0.1701	7	0	7
4	0.1351	0.3819	0.0444	2	0	2
5	0.2703	0.6884	0.0800	4	0	4
6	0.0676	0.2527	0.0294	1	0	1
7	0.1081	0.3126	0.0363	1	0	1
8	0.0135	0.1162	0.0135	1	0	1
9	0.3243	0.7043	0.0819	4	0	4
10	0.2703	0.6682	0.0777	3	0	3
11	1.0405	1.7629	0.2049	10	0	10
12	0.2973	0.6353	0.0738	3	0	3
13	0.0405	0.1986	0.0231	1	0	1
14	0.0541	0.2815	0.0327	2	0	2
15	0.1757	0.4490	0.0522	2	0	2
16	0.2162	0.5040	0.0586	2	0	2
17	0.2027	0.5229	0.0608	3	0	3
18	0.3919	0.8246	0.0959	5	0	5
19	0.2297	0.4839	0.0563	2	0	2
20	0 1351	0.4776	0.0555	3	0	3
21	0.0811	0.3610	0.0420	2	0	2
22	0.7703	1.0142	0.1179	4	0	4
23	1.5000	1.5011	0.1745	7	0	7
24	0.2703	0.4768	0.0554	2	0	2
25	0.9459	1.2038	0.1399	5	0	5
26	0.1622	0.4388	0.0510	2	0	2
27	0.3514	0.6288	0.0731	3	0	3
28	0.2838	0.5857	0.0681	3	0	3
29	0.2162	0.4760	0.0553	2	0	2
30	10.0946	9.6927	1.1268	63	0	63
31	10.6621	1.2306	0.1431	15	10	5
32	10.6892	1.7511	0.2036	19	10	9
33	11.7973	3.0965	0.3600	29	10	19
34	10.2973	0.9025	0.1049	15	10	5
35	10.5540	1.3461	0.1565	17	10	7
36	10.1486	0.5657	0.0658	13	10	3
37	10.1892	0.5893	0.0685	13	10	3
38	10.0270	0.2325	0.0270	12	10	2
39	10.6216	1.3619	0.1583	18	10	8
40	10.5946	1.5253	0.1773	18	10	8
41	11.7703	3.3085	0.3846	32	10	22
42	10.5811	1.2497	0.1453	16	10	6
43	10.0676	0.3822	0.0444	13	10	3

(Continued)

GENERALIZATION SAMPLE (CS's and RM's)
UPPER CRITERION GROUP (N=74)
19R-EVALUATION SECTION
(Continued)

No. of Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
44	10.1081	0.5630	0.0654	14	10	4
45	10.3784	1.0942	0.1272	16	10	6
46	10.3649	0.9872	0.1148	15	10	5
47	10.3513	0.8980	0.1044	14	10	4
48	10.8378	1.6719	0.1944	19	10	9
49	10.4594	1.1003	0.1279	16	10	6
50	10.2162	0.7811	0.0908	15	10	5
51	10.1081	0.5120	0.0595	13	10	3
52	11.5946	2.0668	0.2403	18	10	8
53	13.5405	3.7968	0.4414	31	10	21
54	10.8108	1.4304	0.1663	16	10	6
55	11.6892	2.2141	0.2574	20	10	10
56	10.3108	0.9641	0.1121	16	10	6
57	10.6757	1.2939	0.1504	17	10	7
58	10.5000	1.1849	0.1377	17	10	7
59	10.4865	1.1133	0.1294	15	10	5
60	310.5364	21.1002	2.4528	445	290	155
61	2.9730	4.0102	0.4662	32	0	32
62	4.4189	4.2716	0.4966	19	0	19
63	2.6892	3.4240	0.3980	16	0	16
64	0.0135	0.1162	0.0135	1	0	1
65	0.0000	0.0000	0.0000	0	0	0
66	98.1754	83.3072	9.6843	530	0	530
67	6.3378	4.7637	0.5538	22	0	22

GENERALIZATION SAMPLE (CS's and RM's)
MIDDLE CRITERION GROUP (N=74)
19R-EVALUATION SECTION

No. of Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
1	0.4595	0.6862	0.798	3	0	3
2	0.3514	0.8012	0.0931	4	0	4
3	0.8649	1.1387	0.1324	5	0	5
4	0.0946	0.2947	0.0343	1	0	1
5	0.1622	0.4064	0.0472	2	0	2
6	0.1486	0.5150	0.0599	3	0	3
7	0.2027	0.5229	0.0608	2	0	2
8	0.0405	0.1986	0.0231	1	0	1
9	0.2297	0.4547	0.0529	2	0	2
10	0.1622	0.4973	0.0578	3	0	3
11	0.6351	1.2002	0.1395	5	0	5
12	0.2027	0.4676	0.0544	2	0	2
13	0.0135	0.1162	0.0135	1	0	1
14	0.0541	0.2277	0.0265	1	0	1
15	0.1216	0.3684	0.0428	2	0	2
16	0.1892	0.3943	0.0458	1	0	1
17	0.0946	0.3380	0.0393	2	0	2
18	0.2838	0.5369	0.0624	2	0	2
19	0.4189	0.7216	0.0839	3	0	3
20	0.1216	0.3684	0.0428	2	0	2
21	0.2027	0.4676	0.0544	2	0	2
22	0.6892	1.1339	0.1318	6	0	6
23	1.3243	1.4440	0.1679	8	0	8
24	0.1622	0.4064	0.0472	2	0	2
25	0.9865	1.2219	0.1420	5	0	5
26	0.0541	0.2277	0.0265	1	0	1
27	0.1622	0.4064	0.0472	2	0	2
28	0.1757	0.4490	0.0522	2	0	2
29	0.1216	0.3291	0.0383	1	0	1
30	8.7297	5.5967	0.6506	26	0	26
31	11.0135	1.4571	0.1694	15	10	5
32	10.5811	1.5439	0.1795	18	7	11
33	11.5946	2.1891	0.2545	19	10	9
34	10.2162	0.7075	0.0822	13	10	3
35	10.2838	0.7498	0.0872	13	10	3
36	10.2973	0.9613	0.1117	14	10	4
37	10.3513	1.0782	0.1253	16	9	7
38	10.0811	0.3971	0.0462	12	10	2
39	10.3648	0.8205	0.0954	13	10	3
40	10.2973	1.0301	0.1197	15	9	6
41	10.8649	1.5644	0.1819	16	10	6
42	10.2703	0.6682	0.0777	13	10	3
43	10.0270	0.2325	0.0270	12	10	2

(Continued)

GENERALIZATION SAMPLE (CS's and RM's)
MIDDLE CRITERION GROUP (N=74)
19R-EVALUATION SECTION
(Continued)

No. of Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
44	10.1081	0.4553	0.0529	12	10	2
45	10.2838	0.8524	0.0991	14	10	4
46	10.3513	0.7840	0.0911	13	10	3
47	10.1351	0.4776	0.0555	12	10	2
48	10.4865	0.9826	0.1142	14	10	4
49	10.6216	1.1786	0.1370	15	9	6
50	10.2027	0.6617	0.0769	14	10	4
51	10.2567	0.6424	0.0747	13	10	3
52	11.4324	2.3059	0.2681	22	10	12
53	12.7162	2.9633	0.3445	26	10	16
54	10.4865	1.2191	0.1417	16	10	6
55	11.7432	2.2638	0.2632	20	10	10
56	10.0811	0.3971	0.0462	13	10	3
57	10.1892	0.5893	0.0685	13	9	4
58	10.2567	0.6837	0.0795	13	10	3
59	10.2567	0.7034	0.0818	13	10	3
60	305.8467	10.0993	1.1740	338	290	48
61	1.8513	1.7570	0.2043	7	0	7
62	3.8784	3.0608	0.3558	11	0	11
63	2.7703	2.5831	0.3003	11	0	11
64	0.2297	0.8687	0.1010	6	0	6
65	0.0000	0.0000	0.0000	0	0	0
66	84.5132	53.0552	6.1675	293	0	293
67	5.8648	3.3365	0.3879	14	0	14

GENERALIZATION SAMPLE (CS's and RM's)
LOWER CRITERION GROUP (N=74)
19R-EVALUATION SECTION

No. of Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
1	0.2297	0.4547	0.0529	2	0	2
2	0.3649	0.6532	0.0759	3	0	3
3	0.8378	1.1229	0.1305	6	0	6
4	0.1486	0.4279	0.0497	2	0	2
5	0.2432	0.4320	0.0502	1	0	1
6	0.0270	0.1633	0.0190	1	0	1
7	0.1622	0.4388	0.0510	2	0	2
8	0.0135	0.1162	0.0135	1	0	1
9	0.2703	0.5311	0.0617	2	0	2
10	0.4324	0.7038	0.0818	3	0	3
11	0.8378	1.1229	0.1305	5	0	5
12	0.1892	0.4277	0.0497	2	0	2
13	0.0000	0.0000	0.0000	0	0	0
14	0.1216	0.4038	0.0469	2	0	2
15	0.1757	0.4785	0.0556	3	0	3
16	0.1351	0.3819	0.0444	2	0	2
17	0.0946	0.3380	0.0393	2	0	2
18	0.2162	0.4463	0.0519	2	0	2
19	0.4189	0.7586	0.0882	3	0	3
20	0.1757	0.4785	0.0556	2	0	2
21	0.1351	0.3442	0.0400	1	0	1
22	0.6486	0.9280	0.1079	4	0	4
23	1.6621	1.5374	0.1787	7	0	7
24	0.1081	0.3537	0.0411	2	0	2
25	0.9865	1.1878	0.1381	4	0	4
26	0.1216	0.3684	0.0428	2	0	2
27	0.3784	0.6127	0.0712	3	0	3
28	0.1622	0.4388	0.0510	2	0	2
29	0.1351	0.3442	0.0400	1	0	1
30	9.4324	5.0965	0.5925	29	0	29
31	10.4189	0.9364	0.1089	13	9	4
32	10.5676	1.0479	0.1218	14	10	4
33	11.0946	2.1592	0.2510	23	7	16
34	10.2838	0.8196	0.0953	14	10	4
35	10.4730	0.8793	0.1022	13	10	3
36	10.0676	0.4165	0.0484	13	10	3
37	10.2838	0.8027	0.0933	14	10	4
38	10.0270	0.2325	0.0270	12	10	2
39	10.3919	0.9189	0.1068	14	9	5
40	10.6081	1.1915	0.1385	15	9	6
41	11.1486	2.0385	0.2370	19	8	11
42	10.3108	0.8264	0.0961	13	9	4
43	10.0000	0.0000	0.0000	10	10	0

(Continued)

GENERALIZATION SAMPLE (CS's and RM's)
LOWER CRITERION GROUP (N=74)
19R-EVALUATION SECTION
(Continued)

No. of Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
44	10.0811	0.5675	0.0660	13	8	5
45	10.3784	1.0689	0.1243	17	10	7
46	10.1757	0.6487	0.0754	14	9	5
47	10.1486	0.5410	0.0629	13	10	3
48	10.3378	0.7635	0.0888	13	10	3
49	10.7432	1.4340	0.1667	17	10	7
50	10.2703	0.7816	0.0909	14	10	4
51	10.1757	0.4785	0.0556	12	10	2
52	11.1351	1.7698	0.2057	18	9	9
53	13.1757	3.3407	0.3884	22	8	14
54	10.2567	1.0476	0.1218	16	8	8
55	11.3378	2.0155	0.2343	18	8	10
56	10.2027	0.6617	0.0769	13	10	3
57	10.7567	1.4026	0.1631	17	9	8
58	10.2162	0.6677	0.0776	14	10	4
59	10.2432	0.6582	0.0765	13	10	3
60	305.5764	9.0569	1.0528	333	290	43
61	1.5540	1.5362	0.1786	7	0	7
62	4.2838	2.6767	0.3112	16	0	16
63	2.8513	2.4700	0.2871	9	0	9
64	0.7297	1.5641	0.1818	9	0	9
65	0.0135	0.1162	0.0135	1	0	1
66	100.2835	54.5660	6.3432	353	0	353
67	6.3648	2.8020	0.3257	14	0	14

GENERALIZATION SAMPLE (CS's and RM's)
UPPER CRITERION GROUP (N=74)
19S-JUSTIFICATION SECTION

No. of Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
1	0.5135	0.8951	0.1041	4	0	4
2	0.8243	1.3381	0.1556	8	0	8
3	2.0811	1.9846	0.2307	9	0	9
4	0.2568	0.6633	0.0771	3	0	3
5	0.6081	1.0831	0.1259	6	0	6
6	0.1622	0.5241	0.0609	3	0	3
7	0.1757	0.3831	0.0445	1	0	1
8	0.0946	0.2947	0.0343	1	0	1
9	0.9189	1.1196	0.1302	5	0	5
10	1.2567	1.8061	0.2100	9	0	9
11	2.4865	2.7411	0.3186	14	0	14
12	0.8784	0.9209	0.1070	4	0	4
13	0.1486	0.3946	0.0459	2	0	2
14	0.0811	0.2748	0.0319	1	0	1
15	0.8784	0.8101	0.0942	4	0	4
16	0.8649	0.8809	0.1024	4	0	4
17	0.3649	0.6739	0.0783	2	0	2
18	0.5946	0.8263	0.0961	3	0	3
19	1.4189	1.3650	0.1587	6	0	6
20	0.6351	0.8848	0.1029	4	0	4
21	0.2838	0.5369	0.0624	2	0	2
22	1.4054	1.5955	0.1855	6	0	6
23	2.5270	2.0555	0.2390	8	0	8
24	0.0135	0.1162	0.0135	1	0	1
25	2.6757	2.4220	0.2815	10	0	10
26	0.4595	0.6660	0.0774	3	0	3
27	1.1351	1.1387	0.1324	4	0	4
28	0.2973	0.5669	0.0659	2	0	2
29	0.5135	0.7070	0.0822	3	0	3
30	24.5673	15.3846	1.7884	75	2	73
31	11.2027	2.0804	0.2418	20	10	10
32	11.4189	2.3815	0.2768	24	10	14
33	14.0540	4.0776	0.4740	27	10	17
34	10.4594	1.1958	0.1390	16	10	6
35	11.0811	1.8635	0.2166	20	10	10
36	10.3378	1.0634	0.1236	16	10	6
37	10.3108	0.7389	0.0859	13	10	3
38	10.1621	0.5496	0.0639	13	10	3
39	11.7567	2.2071	0.2566	20	10	10
40	12.5811	3.5654	0.4145	27	9	18
41	14.6621	4.2500	0.4940	29	10	19
42	11.7027	1.9705	0.2291	20	10	10
43	10.2703	0.7457	0.0867	13	10	3

(Continued)

GENERALIZATION SAMPLE (CS's and RM's)
UPPER CRITERION GROUP (N=74)
19S-JUSTIFICATION SECTION
(Continued)

No. of Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
44	10.1621	0.5974	0.0694	13	10	3
45	11.9594	1.7629	0.2049	17	10	7
46	11.3648	1.4858	0.1727	16	10	6
47	10.5811	1.1104	0.1291	14	10	4
48	11.0946	1.6316	0.1897	16	10	6
49	12.6081	2.6266	0.3053	22	10	12
50	11.1757	1.6163	0.1879	16	10	6
51	10.3784	0.7711	0.0896	13	10	3
52	12.7838	3.3445	0.3888	23	10	13
53	15.8647	4.6855	0.5447	30	10	20
54	10.0405	0.3487	0.0405	13	10	3
55	14.5811	3.8924	0.4525	23	10	13
56	10.7432	1.2612	0.1466	16	10	6
57	12.2838	2.3671	0.2752	18	10	8
58	10.5000	1.0102	0.1174	14	10	4
59	11.0135	1.4665	0.1705	15	10	5
60	337.1443	28.4735	3.3100	423	294	129
61	6.0946	4.5183	0.5252	20	0	20
62	10.5811	6.9420	0.8070	32	1	31
63	7.8243	6.8012	0.7906	31	0	31
64	0.0676	0.4778	0.0555	4	0	4
65	0.0000	0.0000	0.0000	0	0	0
66	228.2968	155.7997	18.1113	881	17	864
67	12.4730	4.6852	0.5446	22	1	21

GENERALIZATION SAMPLE (CS's and RM's)
MIDDLE CRITERION GROUP (N=74)
19S-JUSTIFICATION SECTION

No. of Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
1	0.3108	0.6395	0.0743	2	0	2
2	0.3919	0.8246	0.0959	3	0	3
3	1.0946	1.6232	0.1887	7	0	7
4	0.2027	0.6617	0.0769	4	0	4
5	0.4324	0.7417	0.0862	3	0	3
6	0.1081	0.5381	0.0625	4	0	4
7	0.1622	0.4690	0.0545	3	0	3
8	0.0405	0.2585	0.0301	2	0	2
9	0.4865	0.7806	0.0907	3	0	3
10	0.4324	0.8289	0.0964	4	0	4
11	1.5676	1.7910	0.2082	7	0	7
12	0.4054	0.7199	0.0837	3	0	3
13	0.1892	0.5893	0.0685	3	0	3
14	0.0811	0.3208	0.0373	2	0	2
15	0.7973	0.9506	0.1105	4	0	4
16	0.4730	0.6458	0.0751	3	0	3
17	0.1892	0.4875	0.0567	3	0	3
18	0.2297	0.5376	0.0625	3	0	3
19	0.8919	0.9871	0.1148	4	0	4
20	0.3649	0.7508	0.0873	3	0	3
21	0.2703	0.5563	0.0647	2	0	2
22	0.5811	0.9509	0.1105	5	0	5
23	2.0270	1.8870	0.2194	11	0	11
24	0.0000	0.0000	0.0000	0	0	0
25	1.4324	1.6393	0.1906	7	0	7
26	0.2162	0.5304	0.0617	3	0	3
27	0.5405	0.7251	0.0843	3	0	3
28	0.1622	0.3711	0.0431	1	0	1
29	0.2838	0.5369	0.0624	3	0	3
30	14.3648	9.8961	1.1504	49	0	49
31	10.7567	1.5860	0.1844	16	10	6
32	10.6621	1.4456	0.1680	16	9	7
33	12.1351	3.2449	0.3772	27	10	17
34	10.3243	1.0351	0.1203	16	10	6
35	10.8108	1.5141	0.1760	16	10	6
36	10.1892	0.9017	0.1048	16	10	6
37	10.2838	0.9583	0.1114	17	10	7
38	10.0541	0.3265	0.0380	12	10	2
39	10.8513	1.4304	0.1663	15	10	5
40	10.8513	1.6021	0.1862	16	10	6
41	12.7567	3.0780	0.3578	21	10	11
42	10.7973	1.5168	0.1763	16	10	6
43	10.2973	0.9754	0.1134	16	10	6

(Continued)

GENERALIZATION SAMPLE (CS's and RM's)
MIDDLE CRITERION GROUP (N=74)
19S-JUSTIFICATION SECTION
(Continued)

No. of Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
44	10.1351	0.5318	0.0618	13	10	3
45	11.8108	2.3035	0.2678	21	10	11
46	10.6892	0.9782	0.1137	14	10	4
47	10.3513	0.9131	0.1061	15	10	5
48	10.3919	1.0313	0.1199	16	10	6
49	11.5000	1.8672	0.2171	19	10	9
50	10.5135	1.1010	0.1280	15	10	5
51	10.3784	0.8392	0.0975	14	10	4
52	11.0811	1.7102	0.1988	19	10	9
53	14.2297	4.1266	0.4797	33	10	23
54	10.0000	0.0000	0.0000	10	10	0
55	12.4324	2.9381	0.3415	23	10	13
56	10.3649	0.9447	0.1098	15	10	5
57	11.0540	1.6124	0.1874	16	10	6
58	10.2567	0.6424	0.0747	13	10	3
59	10.5676	1.1236	0.1306	16	10	6
60	316.5225	18.2112	2.1170	374	290	84
61	3.1216	2.7843	0.3237	14	0	14
62	6.0000	4.7571	0.5530	25	0	25
63	5.2027	4.5510	0.5290	19	0	19
64	0.0405	0.1986	0.0231	1	0	1
65	0.0000	0.0000	0.0000	0	0	0
66	133.0268	96.9929	11.2752	442	0	442
67	8.4730	4.2819	0.4978	18	0	18

GENERALIZATION SAMPLE (CS's and RM's)
LOWER CRITERION GROUP (N=74)
19S-JUSTIFICATION SECTION

No. of Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
1	0.0135	0.1162	0.0135	1	0	1
2	0.0676	0.3021	0.0351	2	0	2
3	0.1351	0.5318	0.0618	4	0	4
4	0.0405	0.1986	0.0231	1	0	1
5	0.0541	0.2815	0.0327	2	0	2
6	0.0135	0.1162	0.0135	1	0	1
7	0.0676	0.3445	0.0400	2	0	2
8	0.0270	0.1633	0.0190	1	0	1
9	0.0405	0.2585	0.0301	2	0	2
10	0.2432	0.6985	0.0812	4	0	4
11	0.3514	0.8182	0.0951	4	0	4
12	0.2297	0.6092	0.0708	3	0	3
13	0.0135	0.1162	0.0135	1	0	1
14	0.0270	0.1633	0.0190	1	0	1
15	0.3243	0.9524	0.1107	5	0	5
16	0.0811	0.4898	0.0569	4	0	4
17	0.0541	0.2815	0.0327	2	0	2
18	0.0135	0.1162	0.0135	1	0	1
19	0.1216	0.4038	0.0469	2	0	2
20	0.0541	0.2277	0.0265	1	0	1
21	0.0676	0.2527	0.0294	1	0	1
22	0.1216	0.4668	0.0543	3	0	3
23	0.1757	0.5819	0.0676	4	0	4
24	0.0000	0.0000	0.0000	0	0	0
25	0.1216	0.4668	0.0543	3	0	3
26	0.0541	0.2277	0.0265	1	0	1
27	0.2027	0.5729	0.0666	2	0	2
28	0.0135	0.1162	0.0135	1	0	1
29	0.0405	0.1986	0.0231	1	0	1
30	2.7703	4.0798	0.4743	21	0	21
31	10.0270	0.2325	0.0270	12	10	2
32	10.1081	0.4845	0.0563	13	10	3
33	10.2567	1.0476	0.1218	18	10	8
34	10.0405	0.1986	0.0231	11	10	1
35	10.0946	0.4731	0.0550	13	10	3
36	10.0270	0.2325	0.0270	12	10	2
37	10.1351	0.6688	0.0777	14	10	4
38	10.0540	0.3661	0.0426	13	10	3
39	10.0676	0.4165	0.0484	13	10	3
40	10.4189	1.4046	0.1633	18	9	9
41	10.8513	1.9492	0.2266	19	10	9
42	10.5135	1.4069	0.1635	17	10	7
43	10.0135	0.1162	0.0135	11	10	1

(Continued)

GENERALIZATION SAMPLE (CS's and RM's)
LOWER CRITERION GROUP (N=74)
19S-JUSTIFICATION SECTION
(Continued)

No. of Variable	Mean	S.D.	S.E. of Mean	Max.	Min.	Range
44	10.0405	0.2585	0.0301	12	10	2
45	10.6892	2.1062	0.2448	21	9	12
46	10.1351	0.8492	0.0987	17	10	7
47	10.1216	0.6183	0.0719	14	10	4
48	10.0270	0.2325	0.0270	12	10	2
49	10.2162	0.7266	0.0845	14	10	4
50	10.1351	0.5811	0.0675	13	10	3
51	10.0946	0.3763	0.0437	12	10	2
52	10.1892	0.7706	0.0896	15	10	5
53	10.2703	0.9260	0.1076	16	10	6
54	10.0000	0.0000	0.0000	10	10	0
55	10.2567	0.9225	0.1072	15	10	5
56	10.0676	0.3021	0.0351	12	10	2
57	10.4054	1.1811	0.1373	15	10	5
58	10.0270	0.2325	0.0270	12	10	2
59	10.0676	0.3445	0.0400	12	10	2
60	295.3472	7.4695	0.8683	323	289	34
61	0.6216	0.9751	0.1133	4	0	4
62	1.4189	2.2514	0.2617	12	0	12
63	0.6892	1.5432	0.1794	9	0	9
64	0.0405	0.1986	0.0231	1	0	1
65	0.0000	0.0000	0.0000	0	0	0
66	27.4051	40.0231	4.6526	172	0	172
67	1.8648	2.5660	0.2983	10	0	10

APPENDIX C

CORRELATIONS AMONG THE 67 VARIABLES*

CROSS VALIDATION SAMPLE - AT's AND BT's COMBINED (N=222)

EVALUATION SECTION (19R)	178
JUSTIFICATION SECTION (19S)	184
EVALUATION SECTION (19R) VS. JUSTIFICATION SECTION (19S)	190

GENERALIZATION SAMPLE - CS's AND RM's COMBINED (N=222)

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* Table 8 (pages 20-21) contains a definition for each of the 67 variables. Variables 1 through 30 are the same as Variables 31 through 60 except for the method of weighting that was used. Therefore, these two sets of variables are highly correlated within the evaluation section and the justification section of both samples. These 30 correlation coefficients are shown in italic type in each correlation matrix for the evaluation section and the justification section.

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R)
FOR THE CROSS VALIDATION SAMPLE - AT's AND BT's COMBINED (N=222)

	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	E12	E13	E14	E15	E16	E17	E18	E19	E20	E21	E22	E23
E1		.06	.13	.21	.09	-.11	.09	.06	.03	.14	.09	.02	-.04	.17	.09	-.08	.06	.03	.07	-.04	.03	.17	.11
E2			.19	.08	.25	.04	.05	.05	-.00	.12	.12	.05	-.04	.05	.10	.15	.03	.07	.05	.05	.08	.14	.07
E3				.35	.07	.01	.25	.03	-.05	.08	.14	.05	.17	-.11	.20	.10	.09	.12	.05	.13	.16	.08	.12
E4					.10	-.04	.22	-.00	-.09	.09	.02	.09	.15	.01	.06	.09	.13	.01	.01	.17	.03	.05	-.03
E5						-.09	.01	.04	.11	.17	.11	-.04	-.07	.03	.16	.26	.06	-.04	.04	-.01	.23	.02	.02
E6							-.03	-.05	.01	-.08	-.04	.10	-.05	.03	-.05	-.06	-.07	.01	-.10	-.09	.24	-.08	.04
E7								-.04	.03	-.07	-.04	-.04	.10	-.01	-.04	.02	-.11	.09	.03	.05	.12	-.02	.07
E8									.07	.03	.00	.03	-.06	-.04	-.07	.18	.07	-.07	.03	.14	-.04	.04	-.00
E9										.01	.06	.10	-.09	.03	.03	-.01	.10	.17	.08	-.05	-.07	-.08	-.01
E10											.26	.09	.04	.05	.38	.13	.11	.06	.23	.13	.16	.11	.06
E11												.37	-.06	.11	.24	.09	.21	-.00	.23	.06	-.02	.10	-.01
E12													-.00	.07	.22	-.08	.17	-.12	.16	.06	-.01	-.05	.04
E13														-.03	-.00	.11	.02	.08	-.02	.22	.03	-.02	.03
E14															-.02	.04	.11	-.11	.01	-.05	.07	-.02	-.01
E15																.06	.06	-.01	.10	.01	-.02	.18	.02
E16																	.05	-.03	.14	.18	-.06	.08	.12
E17																		-.01	.18	.06	-.10	.09	-.11
E18																			-.11	.14	.03	.18	.07
E19																				.08	-.02	.13	.07
E20																					-.03	-.01	.03
E21																						-.04	.17
E22																							.10
E23																							

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R)
FOR THE CROSS VALIDATION SAMPLE - AT's AND BT's COMBINED (N=222)

	E24	E25	E26	E27	E28	E29	E30	E31	E32	E33	E34	E35	E36	E37	E38	E39	E40	E41	E42	E43	E44	E45	E46
E1	-.04	.08	-.01	.14	.14	-.09	.32	.92	.08	.14	.24	.07	-.10	.15	.01	.03	.10	.16	.04	-.05	.05	.09	-.06
E2	-.08	-.05	-.03	-.10	.15	.04	.29	.02	.94	.15	.07	.26	.04	.05	.01	-.00	.05	.12	.08	-.06	.05	.07	.07
E3	-.00	.17	.22	.12	.20	.09	.56	.14	.19	.80	.09	.05	.04	.14	.05	-.03	.09	.09	.02	.20	-.06	.22	.08
E4	-.05	.16	.03	.12	.10	-.02	.34	.19	.10	.10	.68	.07	-.03	.05	-.02	.08	.04	-.03	.14	.21	.05	.09	.14
E5	-.03	-.08	-.07	.01	.06	.11	.22	.10	.25	.11	.12	.94	-.09	.06	.01	.12	.12	.08	-.05	-.08	.10	.06	.23
E6	.09	.01	-.03	-.04	.04	-.02	.02	-.09	.05	.04	-.04	-.09	.98	-.02	-.04	-.06	-.06	.00	.09	-.05	-.02	-.03	-.06
E7	.03	.05	.10	.00	-.08	-.05	.13	.08	.02	.13	-.01	-.03	-.03	.86	-.04	.05	-.05	-.04	-.04	.05	.01	-.04	-.05
E8	-.06	.08	.03	.06	.04	-.06	.11	.08	.03	.03	.02	.05	-.05	-.04	.89	.07	.01	-.04	.01	-.05	-.03	-.06	.16
E9	-.07	.03	.08	.09	-.03	.09	.12	.08	-.00	.00	-.04	.16	.00	.01	.06	.90	-.01	.11	.10	-.10	.02	.03	-.02
E10	-.02	.10	-.02	-.01	.21	-.03	.42	.16	.12	.11	.15	.19	-.07	-.04	-.01	.03	.91	.25	.08	.06	.04	.29	.13
E11	-.13	.11	.04	.04	.08	.03	.54	.08	.10	.12	-.01	.12	-.04	-.04	.02	.02	.22	.74	.27	-.03	.12	.23	.00
E12	-.00	.08	.07	-.04	.08	.06	.34	.02	.07	.08	.11	-.03	.08	-.03	.02	.05	.10	.25	.93	.02	.07	.13	-.05
E13	-.12	.11	.14	.03	-.03	.05	.15	-.00	-.04	.12	.07	-.06	-.07	.06	-.05	-.09	.04	-.01	-.00	.91	.03	.02	.19
E14	.05	-.06	-.09	-.15	.02	-.04	.05	.04	.06	-.10	.04	.04	.04	.02	-.04	.05	.02	.07	.09	-.03	.76	-.03	.02
E15	-.06	-.01	.06	-.01	.02	.12	.35	.07	.08	.18	.07	.15	-.05	-.03	-.06	.04	.33	.31	.16	.02	-.04	.83	-.01
E16	-.10	-.13	-.13	-.02	-.03	.15	.19	-.09	.11	.12	.14	.28	-.08	-.01	.08	-.04	.06	.02	-.08	.11	.07	-.00	.81
E17	-.14	.19	-.03	-.00	.26	-.04	.34	.07	-.00	.09	.17	.07	-.07	-.09	.13	.06	.11	.22	.17	.07	.22	.02	.07
E18	-.04	.01	.13	.09	-.02	.00	.13	.08	.21	.12	.05	-.08	-.01	.12	-.06	.11	.08	.13	-.12	.08	-.08	.06	.01
E19	-.11	.13	.05	.10	.00	.07	.38	-.01	.04	.07	.02	.07	-.10	.04	.07	.05	.19	.04	.14	-.00	-.09	.06	.04
E20	-.00	-.02	.04	.13	-.04	.04	.23	-.02	.05	.18	.20	.03	-.09	.02	.07	-.06	.16	.01	.06	.23	-.02	.05	.16
E21	.23	-.05	.08	-.01	.07	-.05	.19	.05	.09	.13	-.06	.17	.23	.21	-.04	-.10	.16	-.02	.01	.01	.08	-.07	-.05
E22	-.15	.14	-.05	.01	.05	.12	.36	.09	.07	.08	.15	.00	-.08	-.02	.00	-.07	.09	.14	-.05	.03	-.01	.25	.02
E23	.06	.07	.00	-.05	.06	.01	.33	.08	.07	.07	-.09	-.01	.02	.13	-.04	-.05	.08	-.02	.04	-.02	.03	-.02	.03

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R)
FOR THE CROSS VALIDATION SAMPLE - AT's AND BT's COMBINED (N=222)

	E24	E25	E26	E27	E28	E29	E30	E31	E32	E33	E34	E35	E36	E37	E38	E39	E40	E41	E42	E43	E44	E45	E46
E24		-.12	.03	-.03	.02	-.09	-.07	-.00	-.06	.06	-.04	-.06	.12	.11	-.05	-.05	.04	-.09	.02	-.11	-.04	-.04	-.04
E25			.21	.10	.12	-.01	.44	.09	-.04	.07	.06	-.08	.02	.01	.10	.08	.12	.18	.06	.14	-.04	.06	-.05
E26				.13	.12	.04	.24	.01	-.04	.17	-.12	-.07	-.02	.05	.06	.05	.02	.09	.06	.13	-.07	.05	-.10
E27					-.12	.08	.21	.12	-.09	.08	.05	-.04	-.04	-.03	.03	.08	.01	.07	-.02	.13	-.15	.06	-.04
E28						-.10	.30	.15	.11	.23	.15	.05	.07	-.04	.13	-.05	.18	.05	.08	-.03	.07	-.06	-.02
E29							.15	-.10	.05	.13	.02	.14	-.03	-.04	-.05	.10	-.05	-.01	-.01	.10	.02	.03	.17
E30								.30	.26	.47	.23	.20	.03	.13	.10	.10	.38	.45	.29	.19	.09	.32	.13
E31									.05	.16	.23	.08	-.07	.16	.02	.08	.12	.16	.05	-.01	.08	.10	-.04
E32										.17	.09	.26	.06	.03	.00	-.01	.05	.11	.10	-.06	.06	.08	.12
E33											.25	.08	.06	.21	.07	.02	.12	.12	.05	.09	-.05	.22	.13
E34												.10	-.02	.11	-.01	-.03	.09	-.02	.14	.06	.08	.11	.20
E35													-.09	.01	.01	.15	.11	.09	-.06	-.08	.11	.06	.25
E36														-.02	-.04	-.05	-.05	.01	.08	-.07	-.02	-.03	-.07
E37															-.03	.03	-.01	-.02	-.03	-.03	.05	-.03	-.04
E38																.05	-.02	-.03	-.00	-.05	-.03	-.05	.08
E39																	.03	.08	.08	-.10	.02	.06	-.07
E40																		.25	.09	.06	-.00	.29	.07
E41																			.19	.03	.12	.37	-.04
E42																				.00	.06	.10	-.06
E43																					.03	.07	.22
E44																						-.01	.16
E45																							-.00
E46																							

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R)
FOR THE CROSS VALIDATION SAMPLE - AT's AND BT's COMBINED (N=222)

	E47	E48	E49	E50	E51	E52	E53	E54	E55	E56	E57	E58	E59	E60	E61	E62	E63	E64	E65	E66	E67
E1	.04	.05	.04	-.05	-.01	.13	.13	-.03	.06	-.06	.10	.10	-.09	.22	.22	.26	.19	.01	-.04	.24	.28
E2	.05	.07	.03	.03	.07	.17	.05	-.07	-.04	-.02	-.10	.12	.09	.22	.08	.30	.19	.02	-.03	.30	.28
E3	.05	.13	.08	.08	.21	.13	.03	.01	.10	.20	.14	.18	.12	.40	.24	.48	.31	.23	-.05	.51	.47
E4	.12	.01	-.01	.13	.08	.05	-.09	-.04	.14	.04	.17	.06	-.03	.20	.10	.26	.21	.24	-.03	.31	.28
E5	.06	-.04	.03	-.02	.16	.02	.00	-.03	-.08	-.07	.03	-.02	.15	.16	-.03	.24	.23	-.05	-.02	.16	.29
E6	-.06	-.01	-.07	-.08	.30	-.07	.00	.10	.03	.02	-.02	.06	-.03	.05	.03	.08	-.08	-.01	-.02	.14	.03
E7	-.11	.09	.05	-.04	.12	.01	.05	.04	.02	.07	.03	-.07	-.04	.09	.10	.11	.02	.19	-.02	.21	.17
E8	.05	-.06	-.01	.07	-.04	.03	.00	-.05	.11	.06	.05	.05	-.05	.08	.03	.07	.13	-.01	-.01	.13	.13
E9	.12	.14	.09	-.05	-.08	-.06	.03	-.09	.07	.06	.01	-.03	.10	.19	.11	.13	.19	-.12	.06	.03	.22
E10	.08	.07	.16	.19	.13	.11	.12	-.05	.13	-.06	.02	.15	-.07	.35	.28	.30	.29	.03	.10	.32	.46
E11	.18	-.02	.02	.00	-.03	.10	-.08	-.13	.10	.05	.06	.05	-.03	.32	.16	.33	.49	.32	.00	.32	.39
E12	.16	-.11	.08	-.00	.02	-.07	.06	.01	.10	.06	.03	.09	.03	.26	.10	.32	.25	.02	-.03	.21	.31
E13	-.00	.12	.02	.18	.08	.02	.05	-.11	.08	.17	.11	-.04	.09	.15	.21	.06	.05	.03	-.02	.18	.18
E14	.11	-.10	-.10	-.05	.05	-.01	-.01	-.02	-.05	-.09	-.16	.02	-.06	.01	.01	.02	.03	.09	.23	-.01	.06
E15	.03	.04	.05	.01	-.02	.17	.02	-.05	-.03	.02	.02	-.04	.10	.27	.17	.26	.26	.05	-.03	.27	.39
E16	.05	-.04	.05	.12	-.03	.13	.05	-.09	-.13	-.13	-.01	-.07	.10	.10	-.02	.16	.20	.12	-.03	.20	.29
E17	.96	-.01	.15	.08	-.10	.10	-.10	-.13	.18	-.03	.03	.25	-.02	.28	.14	.26	.33	-.07	-.03	.15	.28
E18	-.02	.93	-.06	.17	-.01	.22	.06	-.03	.02	.10	.12	.01	.03	.24	.28	.09	.13	-.09	-.03	.12	.25
E19	.18	-.08	.74	.04	-.02	.13	.06	-.13	.11	.06	.06	-.01	.01	.22	.11	.21	.32	.23	.07	.27	.36
E20	.04	.20	.05	.85	-.02	.03	.00	.01	-.03	.02	.20	-.06	.02	.19	.17	.10	.21	.01	-.02	.20	.25
E21	-.09	.02	-.00	-.04	.95	-.04	.11	.18	-.06	.05	-.01	.06	-.06	.12	.07	.12	.15	.07	.15	.24	.18
E22	.11	.15	.07	.03	-.07	.93	.00	-.14	.07	-.05	-.01	.07	.12	.19	.15	.31	.27	.08	-.05	.34	.29
E23	-.11	.07	.09	.06	.19	.10	.88	.07	.04	-.03	-.10	.08	.02	.28	.21	.26	.15	.14	-.01	.40	.29

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R)
FOR THE CROSS VALIDATION SAMPLE - AT's AND BT's COMBINED (N=222)

	E47	E48	E49	E50	E51	E52	E53	E54	E55	E56	E57	E58	E59	E60	E61	E62	E63	E64	E65	E66	E67
E24	-.13	-.02	-.07	.05	.19	-.15	.11	.96	-.09	-.00	-.03	.03	-.09	.04	.18	-.09	-.16	-.08	.16	.03	-.03
E25	.18	-.02	.16	-.01	-.04	.12	.06	-.10	.93	.23	.16	.14	-.01	.37	.30	.38	.25	.05	-.05	.34	.32
E26	-.03	.14	.13	.06	.09	-.07	-.00	-.00	.24	.94	.17	.13	.07	.24	.18	.28	.06	.05	.10	.25	.28
E27	-.03	.12	.07	.10	-.00	-.00	-.02	-.01	.10	.15	.89	-.10	.06	.20	.19	.12	.13	.06	-.05	.25	.22
E28	.27	-.03	.06	-.04	.04	.05	.06	.03	.14	.06	-.12	.93	-.07	.20	.14	.29	.19	-.02	-.03	.18	.29
E29	-.03	-.03	.09	-.01	-.04	.14	.03	-.08	-.03	.02	.10	-.09	.89	.12	.02	.14	.15	-.03	-.02	.05	.20
E30	.31	.13	.28	.18	.19	.37	.25	-.07	.39	.21	.24	.27	.12	.73	.48	.77	.67	.27	-.00	.81	.89
E31	.05	.10	.05	-.03	.02	.10	.11	.01	.07	-.04	.12	.12	-.09	.23	.31	.24	.12	-.07	-.04	.20	.28
E32	.02	.11	.04	.03	.08	.10	.10	-.06	-.01	-.03	-.07	.08	.11	.24	.11	.29	.16	-.06	-.02	.30	.25
E33	.05	.12	.11	.14	.10	.13	.11	.07	.03	.11	.09	.21	.14	.46	.27	.51	.27	-.16	-.04	.39	.44
E34	.16	.01	.00	.24	-.12	.17	-.04	-.03	.04	-.16	.04	.11	.01	.25	.09	.28	.21	-.22	-.02	.12	.26
E35	.07	-.08	.05	.01	.11	.01	-.03	-.06	-.06	-.06	-.03	.02	.17	.14	-.04	.22	.23	-.05	-.02	.13	.28
E36	-.06	-.03	-.07	-.08	.29	-.07	.01	.12	.04	.02	-.02	.09	-.05	.06	.06	.08	-.08	-.02	-.02	.13	.04
E37	-.09	.13	.08	.01	.13	.01	.14	.11	-.03	-.01	-.03	-.03	-.03	.15	.12	.14	.06	-.06	-.02	.17	.18
E38	.09	-.06	.02	.02	-.04	-.00	-.04	-.05	.14	.11	.01	.14	-.05	.07	.06	.03	.12	.01	-.01	.11	.12
E39	.08	.08	.07	-.07	-.11	-.03	.02	-.06	.10	.05	.01	-.04	.11	.19	.16	.13	.06	-.12	.02	.01	.18
E40	.06	.09	.13	.21	.13	.10	.13	.01	.16	-.03	.02	.20	-.09	.36	.37	.26	.19	-.00	.10	.28	.43
E41	.18	.11	.08	-.02	-.04	.13	-.02	-.09	.18	.08	.10	.04	-.06	.44	.36	.34	.36	-.07	-.01	.29	.38
E42	.16	-.10	.06	.01	.04	-.06	.07	.03	.09	.06	.04	.10	-.03	.26	.15	.28	.17	-.02	-.03	.19	.26
E43	.04	.13	.06	.20	.07	.07	-.01	-.10	.13	.16	.22	-.03	.14	.19	.29	.08	.01	.09	-.02	.22	.19
E44	.22	-.08	-.01	-.03	.05	.01	.03	-.08	-.06	-.07	-.11	.05	-.02	.09	.03	.10	.06	-.06	.13	-.00	.07
E45	-.02	.11	.05	.05	-.08	.25	.00	-.04	.05	.03	.11	-.06	.03	.32	.33	.24	.14	-.03	-.02	.26	.32
E46	.06	-.01	.10	.15	-.04	.06	.04	-.03	-.03	-.09	.04	-.06	.16	.15	.07	.15	.12	-.10	-.02	.12	.23

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R)
FOR THE CROSS VALIDATION SAMPLE - AT's AND BT's COMBINED (N=222)

	E47	E48	E49	E50	E51	E52	E53	E54	E55	E56	E57	E58	E59	E60	E61	E62	E63	E64	E65	E66	E67
E47		-.03	.14	.05	-.10	.10	-.11	-.13	.17	-.04	-.01	.27	-.02	.25	.10	.25	.31	-.06	-.03	.13	.24
E48			-.02	.22	-.01	.20	.05	-.02	-.00	.11	.15	-.01	-.02	.24	.34	.04	.12	-.06	-.03	.15	.24
E49				.02	-.02	.07	.11	-.07	.17	.14	.14	.05	.05	.30	.23	.24	.19	-.14	.03	.22	.27
E50					-.03	.07	.03	.06	-.01	.04	.11	-.05	-.02	.19	.21	.08	.14	-.05	-.02	.17	.22
E51						-.07	.11	.13	-.05	.08	-.00	.03	-.06	.10	.08	.09	.12	.16	.20	.27	.17
E52							.01	-.14	.05	-.05	-.03	.07	.16	.22	.26	.31	.19	.09	-.05	.31	.32
E53								.11	.08	-.04	-.06	.08	.04	.33	.33	.22	.06	-.12	-.01	.31	.25
E54									-.07	-.02	-.02	.04	-.09	.05	.20	-.08	-.17	-.08	-.14	.04	-.05
E55										.27	.16	.17	.00	.38	.37	.36	.14	-.02	-.05	.31	.29
E56											.20	.07	.05	.22	.21	.24	-.00	.10	.04	.24	.23
E57												-.09	.06	.24	.26	.14	.13	-.01	-.04	.25	.22
E58													-.07	.27	.20	.28	.11	-.05	-.02	.18	.24
E59														.13	.04	.17	.07	-.06	-.02	.04	.19
E60															.62	.62	.42	-.12	-.04	.61	.72
E61																.17	.04	-.06	-.06	.44	.46
E62																	.35	.01	-.03	.65	.72
E63																		.05	.06	.46	.65
E64																			-.02	.29	.12
E65																				-.03	.05
E66																					.71
E67																					

CORRELATIONS AMONG THE 67 VARIABLES ON THE JUSTIFICATION SECTION (19S)
FOR THE CROSS VALIDATION SAMPLE - AT's AND BT's COMBINED (N=222)

	J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12	J13	J14	J15	J16	J17	J18	J19	J20	J21	J22	J23
J1		.37	.36	.32	.27	.00	.19	.17	.25	.32	.28	.14	.19	.19	.14	.16	.21	.30	.30	.09	.26	.25	.33
J2			.39	.35	.52	-.07	.25	.29	.32	.31	.27	.13	.19	.25	.13	.25	.10	.23	.37	.49	.33	.31	.39
J3				.38	.26	-.03	.28	.16	.34	.36	.37	.38	31	.21	.21	.33	.29	.23	.39	.18	.28	.38	.39
J4					.31	.02	.38	.16	.37	.25	.10	.12	.19	.31	.09	.20	.22	.17	.24	.17	.18	.20	.33
J5						.09	.13	.31	.21	.42	.35	.12	.26	.20	.24	.35	.18	.17	.25	.46	.27	.21	.36
J6							-.05	.03	.02	.07	.13	.07	.08	-.02	.13	-.01	.10	-.06	-.00	.07	.03	.01	.05
J7								.07	.15	.11	.00	.06	.16	.20	-.06	.12	.20	.09	.12	.13	.29	.28	.30
J8									.14	.26	.20	.01	.06	.29	.11	.24	.18	.21	.22	.24	.12	.16	.18
J9										.35	.30	.29	.40	.23	.11	.24	.24	.23	.40	.20	.31	.37	.45
J10											.37	.21	.23	.20	.30	.37	.39	.32	.38	.22	.27	.35	.39
J11												.39	.27	.24	.41	.26	.15	.17	.52	.18	.26	.26	.34
J12													.33	.13	.31	.12	.21	.09	.37	.15	.18	.33	.16
J13														.13	.21	.20	.02	-.01	.28	.15	.31	.23	.31
J14															.08	.07	.11	.12	.37	.05	.19	.09	.30
J15																.16	.07	.07	.29	.15	.13	.18	.22
J16																	.12	.15	.34	.32	.08	.27	.42
J17																		.17	.17	.12	.08	.37	.09
J18																			.23	.20	.14	.40	.35
J19																				.23	.32	.34	.44
J20																					.20	.33	.29
J21																						.19	.39
J22																							.48
J23																							

CORRELATIONS AMONG THE 67 VARIABLES ON THE JUSTIFICATION SECTION (19S)
FOR THE CROSS VALIDATION SAMPLE - AT's AND BT's COMBINED (N=222)

	J24	J25	J26	J27	J28	J29	J30	J31	J32	J33	J34	J35	J36	J37	J38	J39	J40	J41	J42	J43	J44	J45	J46
J1	.01	.28	.23	.30	.28	.39	.50	.98	.34	.33	.30	.29	.01	.17	.14	.24	.24	.23	.12	.15	.23	.10	.16
J2	.07	.25	.24	.25	.35	.19	.58	.33	.99	.37	.22	.55	-.07	.23	.29	.32	.30	.24	.09	.22	.32	.11	.20
J3	.07	.36	.38	.37	.38	.19	.67	.35	.41	.97	.30	.28	-.03	.26	.14	.34	.31	.32	.36	.32	.25	.19	.33
J4	.14	.21	.25	.22	.35	.11	.45	.32	.31	.32	.89	.35	.00	.36	.16	.37	.17	.06	.06	.19	.33	.04	.16
J5	-.01	.36	.27	.24	.40	.07	.56	.24	.50	.26	.25	.97	.11	.11	.31	.21	.38	.34	.07	.21	.19	.21	.33
J6	.17	.11	.05	.03	.06	.05	.11	.01	-.07	-.04	.01	.10	.99	-.04	.05	.01	.06	.14	.06	.03	-.03	.10	-.04
J7	.16	.13	.17	.13	.09	.14	.31	.16	.23	.25	.25	.16	-.05	.98	.11	.12	.12	-.00	.03	.11	.25	-.09	.11
J8	.02	.15	.31	.13	.12	.05	.33	.16	.28	.16	.07	.33	.02	.07	.94	.19	.20	.17	-.02	.05	.21	.10	.22
J9	.05	.38	.27	.46	.31	.23	.59	.24	.32	.31	.29	.25	.01	.15	.14	.95	.30	.26	.24	.35	.26	.09	.24
J10	-.02	.30	.27	.40	.31	.17	.63	.31	.30	.34	.17	.43	.06	.11	.24	.30	.95	.37	.22	.22	.21	.26	.40
J11	-.00	.37	.41	.48	.26	.23	.65	.27	.27	.34	.08	.36	.12	.01	.20	.28	.37	.95	.34	.24	.24	.39	.20
J12	.01	.37	.31	.27	.37	.18	.49	.13	.17	.33	.07	.12	.06	.08	.03	.28	.17	.34	.95	.28	.17	.29	.08
J13	.02	.27	.22	.25	.29	.16	.44	.15	.19	.32	.13	.27	.08	.16	.10	.37	.24	.24	.33	.92	.22	.21	.17
J14	.08	.23	.38	.17	.18	.20	.37	.18	.23	.21	.24	.28	-.02	.20	.29	.25	.18	.20	.11	.14	.91	.03	.04
J15	.16	.22	.32	.32	.10	.19	.43	.14	.14	.20	.08	.25	.12	-.06	.14	.13	.27	.38	.28	.21	.08	.98	.21
J16	.05	.18	.22	.39	.23	.13	.48	.17	.22	.33	.13	.34	-.01	.13	.15	.25	.34	.25	.13	.13	.03	.13	.92
J17	-.01	.38	.15	.14	.19	-.01	.39	.23	.11	.30	.26	.19	.09	.22	.18	.25	.34	.14	.15	-.01	.10	.08	.10
J18	.06	.29	.23	.20	.24	.14	.42	.31	.24	.23	.13	.20	-.07	.09	.18	.24	.28	.17	.09	.00	.10	.05	.14
J19	.05	.42	.43	.38	.27	.38	.67	.29	.35	.37	.16	.30	-.02	.13	.23	.37	.37	.48	.37	.24	.40	.24	.34
J20	.03	.22	.13	.16	.35	.09	.45	.10	.51	.17	.10	.41	.06	.11	.24	.19	.21	.18	.12	.09	.07	.12	.30
J21	.02	.28	.28	.16	.23	.14	.46	.22	.32	.26	.07	.32	.03	.27	.19	.27	.30	.23	.15	.27	.27	.10	.04
J22	.09	.46	.27	.36	.40	.19	.64	.24	.33	.35	.11	.24	.01	.26	.16	.35	.34	.24	.33	.15	.10	.14	.26
J23	.27	.39	.39	.45	.36	.24	.72	.30	.37	.38	.22	.43	.06	.29	.21	.41	.41	.34	.12	.22	.33	.17	.36

CORRELATIONS AMONG THE 67 VARIABLES ON THE JUSTIFICATION SECTION (19S)
FOR THE CROSS VALIDATION SAMPLE - AT's AND BT's COMBINED (N=222)

	J24	J25	J26	J27	J28	J29	J30	J31	J32	J33	J34	J35	J36	J37	J38	J39	J40	J41	J42	J43	J44	J45	J46
J24		-.03	-.02	.06	.15	.13	.13	.00	.06	.06	.05	.03	.15	.15	.04	.05	-.05	-.01	-.01	.04	.12	.12	.02
J25			.30	.24	.37	.23	.65	.27	.25	.34	.19	.40	.11	.12	.14	.36	.29	.35	.34	.15	.23	.21	.18
J26				.40	.16	.32	.56	.21	.24	.36	.19	.31	.03	.17	.26	.31	.26	.40	.29	.17	.35	.30	.19
J27					.23	.25	.61	.28	.26	.37	.18	.25	.02	.13	.13	.41	.39	.43	.26	.26	.18	.29	.37
J28						.01	.55	.29	.37	.34	.25	.40	.07	.08	.13	.29	.25	.22	.33	.25	.25	.07	.16
J29							.37	.37	.16	.15	.09	.11	.03	.12	.03	.22	.16	.19	.18	.13	.19	.16	.17
J30								.48	.58	.64	.33	.60	.10	.30	.33	.57	.59	.60	.44	.37	.40	.38	.45
J31									.31	.33	.32	.25	.01	.15	.11	.22	.23	.21	.11	.12	.21	.11	.18
J32										.38	.20	.52	-.07	.22	.28	.33	.29	.24	.13	.22	.30	.12	.17
J33											.28	.29	-.04	.24	.15	.32	.30	.31	.30	.33	.25	.19	.34
J34												.26	-.01	.24	.07	.29	.11	.06	.01	.14	.25	.05	.11
J35													.12	.15	.34	.25	.41	.34	.07	.22	.28	.20	.30
J36														-.05	.04	-.01	.06	.14	.04	.02	-.04	.08	-.04
J37															.11	.12	.11	.02	.05	.10	.25	-.09	.12
J38																.16	.21	.17	-.02	.09	.24	.13	.13
J39																	.26	.25	.23	.32	.27	.11	.24
J40																		.39	.18	.23	.18	.23	.35
J41																			.30	.19	.20	.37	.19
J42																				.27	.16	.26	.08
J43																					.24	.22	.10
J44																						.03	.00
J45																							.19
J46																							

CORRELATIONS AMONG THE 67 VARIABLES ON THE JUSTIFICATION SECTION (19S)
FOR THE CROSS VALIDATION SAMPLE - AT's AND BT's COMBINED (N=222)

	J47	J48	J49	J50	J51	J52	J53	J54	J55	J56	J57	J58	J59	J60	J61	J62	J63	J64	J65	J66	J67
J1	.21	.26	.30	.09	.24	.26	.33	.03	.22	.16	.29	.25	.34	.49	.17	.38	.48	.04	-.04	.45	.52
J2	.10	.19	.30	.45	.38	.30	.39	.08	.22	.17	.25	.31	.11	.56	.27	.43	.58	.01	-.03	.58	.49
J3	.26	.19	.40	.18	.27	.37	.40	.10	.32	.29	.40	.31	.14	.67	.30	.51	.61	-.02	-.05	.64	.63
J4	.18	.09	.21	.14	.28	.20	.30	.16	.22	.21	.19	.24	.13	.41	.15	.28	.51	.03	-.02	.42	.41
J5	.17	.12	.25	.47	.30	.19	.35	.00	.35	.26	.20	.39	.04	.54	.27	.49	.51	-.05	-.03	.58	.50
J6	.10	-.06	.01	.05	.01	-.00	.05	.18	.11	.07	.03	.07	.06	.12	.01	.15	.05	-.03	-.02	.13	.10
J7	.16	.06	.09	.08	.36	.30	.29	.17	.11	.14	.08	.04	.16	.30	.13	.16	.36	.03	-.02	.30	.29
J8	.13	.21	.18	.18	.16	.14	.18	.03	.16	.28	.12	.13	.08	.31	.10	.27	.33	-.02	-.01	.32	.27
J9	.20	.23	.35	.21	.26	.39	.46	.06	.40	.25	.41	.29	.22	.59	.32	.45	.56	-.02	-.04	.57	.58
J10	.37	.27	.40	.24	.27	.30	.39	-.01	.26	.22	.36	.28	.13	.63	.42	.58	.54	-.04	-.04	.61	.61
J11	.12	.15	.49	.18	.21	.21	.35	.00	.34	.38	.42	.24	.23	.64	.26	.56	.58	-.07	-.02	.60	.59
J12	.16	.05	.38	.16	.15	.28	.15	.03	.34	.21	.24	.35	.13	.46	.13	.40	.46	.02	-.04	.45	.46
J13	.00	-.03	.29	.17	.27	.24	.32	.03	.27	.17	.23	.32	.13	.45	.21	.32	.38	-.04	-.02	.46	.45
J14	.11	.07	.31	.02	.31	.08	.33	.09	.26	.28	.09	.13	.21	.36	.16	.27	.35	.07	-.02	.35	.27
J15	.10	-.00	.29	.20	.11	.16	.20	.18	.20	.28	.30	.09	.15	.43	.15	.38	.33	-.06	-.04	.44	.40
J16	.08	.11	.36	.34	.09	.26	.38	.06	.18	.23	.37	.20	.17	.48	.49	.57	.38	.02	-.04	.48	.50
J17	.97	.17	.20	.07	.09	.34	.13	.01	.35	.11	.12	.18	.02	.39	.23	.36	.31	.08	-.03	.31	.39
J18	.14	.93	.19	.19	.17	.40	.39	.07	.28	.17	.18	.17	.15	.43	.27	.37	.35	-.05	-.03	.36	.43
J19	.14	.16	.95	.23	.33	.34	.46	.07	.41	.34	.32	.21	.33	.66	.38	.55	.61	-.07	-.04	.62	.62
J20	.11	.24	.22	.95	.23	.33	.28	.05	.22	.12	.16	.35	.07	.44	.23	.36	.43	-.05	-.03	.48	.40
J21	.09	.11	.25	.18	.92	.23	.38	.04	.22	.26	.17	.15	.09	.44	.17	.30	.50	-.05	-.03	.42	.44
J22	.33	.37	.33	.31	.22	.96	.45	.11	.45	.22	.36	.40	.20	.64	.29	.50	.58	-.07	-.04	.64	.57
J23	.06	.27	.39	.30	.44	.46	.97	.30	.38	.32	.43	.28	.21	.72	.54	.62	.64	-.08	-.05	.75	.65

CORRELATIONS AMONG THE 67 VARIABLES ON THE JUSTIFICATION SECTION (19S)
FOR THE CROSS VALIDATION SAMPLE - AT's AND BT's COMBINED (N=222)

	J47	J48	J49	J50	J51	J52	J53	J54	J55	J56	J57	J58	J59	J60	J61	J62	J63	J64	J65	J66	J67
J24	-.04	.05	.02	.00	.09	.11	.20	.90	-.03	-.05	.08	.10	.12	.12	.08	.01	.18	.09	.26	.20	.11
J25	.37	.23	.42	.23	.25	.44	.43	-.01	.96	.27	.23	.33	.24	.66	.27	.55	.55	-.02	-.05	.60	.60
J26	.14	.18	.37	.11	.23	.28	.40	-.01	.30	.94	.34	.15	.33	.55	.21	.44	.49	-.05	-.03	.53	.50
J27	.10	.17	.36	.17	.10	.35	.46	.08	.22	.33	.94	.22	.28	.61	.47	.58	.50	.04	-.05	.57	.63
J28	.15	.19	.25	.36	.29	.41	.34	.16	.37	.09	.22	.94	-.01	.53	.20	.39	.55	-.04	-.03	.55	.51
J29	-.02	.11	.38	.06	.12	.20	.24	.14	.22	.27	.21	-.01	.93	.37	.13	.27	.35	-.05	-.03	.37	.39
J30	.35	.35	.64	.44	.47	.61	.72	.16	.62	.47	.57	.48	.34	.99	.51	.83	.90	-.05	-.06	.97	.93
J31	.23	.28	.29	.10	.21	.26	.31	.02	.21	.14	.27	.26	.33	.47	.17	.36	.45	.04	-.04	.42	.51
J32	.11	.21	.29	.46	.36	.31	.37	.07	.23	.16	.26	.33	.09	.56	.24	.43	.57	.01	-.03	.58	.50
J33	.29	.20	.39	.18	.24	.34	.40	.09	.31	.27	.40	.28	.11	.65	.33	.50	.54	.00	-.05	.61	.61
J34	.25	.05	.16	.10	.12	.10	.20	.07	.19	.16	.16	.18	.13	.32	.12	.23	.34	.08	-.02	.29	.35
J35	.18	.14	.28	.41	.37	.21	.42	.04	.39	.28	.20	.37	.07	.58	.29	.53	.55	-.04	-.03	.62	.52
J36	.09	-.06	-.01	.05	.01	-.01	.06	.16	.11	.05	.02	.08	.04	.11	.01	.14	.04	-.03	-.02	.13	.09
J37	.17	.07	.10	.07	.32	.28	.28	.16	.10	.14	.07	.04	.16	.29	.13	.16	.34	.03	-.02	.29	.28
J38	.12	.17	.18	.17	.24	.13	.22	.05	.15	.23	.12	.12	.04	.31	.10	.25	.34	-.02	-.01	.32	.28
J39	.21	.26	.33	.20	.23	.37	.44	.07	.39	.29	.36	.26	.21	.57	.29	.41	.50	.00	-.03	.55	.54
J40	.32	.25	.40	.22	.28	.29	.43	-.03	.26	.22	.37	.22	.12	.61	.45	.56	.48	-.08	-.04	.58	.58
J41	.10	.15	.46	.19	.17	.20	.35	.02	.32	.39	.39	.20	.19	.61	.28	.53	.50	-.10	-.07	.56	.57
J42	.12	.05	.38	.13	.11	.29	.11	.00	.32	.19	.24	.31	.14	.42	.13	.37	.39	.02	-.03	.41	.42
J43	-.02	-.02	.25	.10	.24	.15	.23	.05	.13	.11	.24	.29	.09	.37	.19	.24	.32	-.04	-.02	.38	.40
J44	.12	.04	.32	.03	.39	.11	.35	.13	.23	.24	.11	.20	.16	.39	.18	.27	.39	.13	-.01	.38	.28
J45	.11	-.01	.25	.17	.06	.13	.15	.13	.19	.28	.29	.07	.12	.39	.14	.34	.27	-.06	-.04	.39	.37
J46	.07	.09	.37	.37	.06	.27	.33	.03	.21	.20	.36	.14	.21	.46	.46	.51	.33	-.10	-.03	.45	.46

CORRELATIONS AMONG THE 67 VARIABLES ON THE JUSTIFICATION SECTION (19S)
FOR THE CROSS VALIDATION SAMPLE - AT's AND BT's COMBINED (N=222)

	J47	J48	J49	J50	J51	J52	J53	J54	J55	J56	J57	J58	J59	J60	J61	J62	J63	J64	J65	J66	J67
J47		.14	.17	.07	.11	.29	.10	-.03	.34	.11	.09	.15	-.01	.36	.23	.34	.25	.12	-.03	.28	.34
J48			.14	.21	.13	.37	.31	.07	.23	.15	.15	.14	.13	.37	.21	.29	.27	-.05	-.03	.30	.37
J49				.23	.26	.33	.43	.04	.41	.29	.32	.18	.34	.65	.42	.55	.54	-.07	-.04	.59	.60
J50					.22	.32	.29	.02	.24	.11	.18	.36	.05	.45	.22	.35	.33	-.05	-.03	.48	.41
J51						.25	.43	.10	.21	.18	.10	.19	.06	.44	.19	.28	.51	-.04	-.03	.44	.39
J52							.44	.13	.44	.23	.35	.41	.23	.62	.30	.48	.53	-.07	-.04	.61	.55
J53								.22	.43	.32	.44	.27	.22	.74	.59	.62	.60	-.08	-.05	.73	.65
J54									-.01	-.04	.10	.11	.14	.16	.09	.04	.21	-.10	-.20	.22	.14
J55										.27	.20	.33	.25	.64	.29	.53	.48	-.08	-.05	.57	.56
J56											.29	.11	.30	.47	.19	.38	.39	-.04	-.03	.45	.43
J57												.20	.21	.59	.49	.56	.42	.01	-.05	.53	.58
J58													-.02	.47	.18	.35	.46	-.04	-.03	.49	.47
J59														.34	.13	.26	.30	-.04	-.03	.34	.37
J60															.55	.83	.84	-.07	-.08	.96	.93
J61																.73	.29	-.03	-.04	.48	.48
J62																	.61	-.05	-.06	.79	.78
J63																		-.07	-.05	.87	.81
J64																			.40	-.05	-.04
J65																				-.05	-.06
J66																					.88
J67																					

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R) VS. THE JUSTIFICATION SECTION (19S) FOR THE CROSS VALIDATION SAMPLE - AT's AND BT's COMBINED (N=222)

	J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12	J13	J14	J15	J16	J17	J18	J19	J20	J21	J22	J23
E1	.12	.23	.15	.08	.15	.04	.07	.06	.11	.10	.14	.03	.08	-.04	.00	.02	.04	.09	.09	.05	.16	.03	.10
E2	.03	.06	.07	-.04	.03	-.07	.01	-.07	.00	-.08	.03	.00	-.08	-.08	-.03	-.05	-.05	-.05	.03	.00	-.03	-.04	.01
E3	.06	.02	.18	.17	-.02	-.12	.15	-.09	-.01	.01	-.04	.06	.01	.03	.00	-.10	.02	-.09	-.03	-.06	.15	-.02	-.06
E4	-.03	-.06	.03	-.01	-.08	.02	-.05	-.04	-.04	-.11	.06	-.01	-.01	-.09	-.08	-.10	-.06	-.05	.05	-.08	.06	-.06	-.08
E5	-.04	-.02	-.01	.03	-.05	.06	.03	-.06	-.04	-.12	-.06	-.03	-.08	-.08	-.09	-.02	-.04	-.11	-.06	-.04	-.05	-.11	-.13
E6	-.02	-.06	-.01	.1	-.05	.06	-.05	-.00	-.01	.03	.02	-.01	.05	.14	-.00	-.01	.10	-.04	.01	-.01	-.05	.02	-.03
E7	.07	.12	.11	.16	.09	-.07	.04	.05	.12	-.01	-.00	.11	.06	.05	-.05	.01	-.04	-.05	.08	.04	.10	.01	.04
E8	.01	-.04	.06	-.06	.10	.09	-.05	-.03	-.02	-.10	.09	-.01	.01	-.04	-.00	.03	-.03	-.03	.04	-.01	-.03	-.04	.04
E9	.02	.03	.08	.03	.08	-.08	-.12	.01	.05	.01	.01	.07	06	-.08	.03	08	.00	.04	.16	-.00	-.05	.03	.04
E10	.02	.08	-.03	-.04	-.02	-.05	-.01	.10	-.04	-.13	.02	-.02	-.10	-.04	- 09	-.11	-.06	.05	-.04	.16	-.01	.04	-.07
E11	-.06	-.06	.01	-.06	-.09	-.13	-.06	-.08	-.07	-.10	-.03	.05	-.05	-.01	-.06	.01	-.08	.08	-.06	-.05	-.09	-.11	-.11
E12	.02	-.00	.12	-.08	-.06	.00	-.08	.03	-.0	.03	.07	.11	-.10	.04	-.03	.02	-.04	-.02	.06	.01	-.04	-.07	-.12
E13	.07	.02	.03	.02	.01	-.09	-.07	.13	-.02	.01	.07	.02	-.01	.03	.01	.07	.06	-.02	.11	-.03	.08	.01	-.00
E14	-.04	.09	-.03	-.09	.02	.06	-.07	-.05	.10	-.01	.12	-.04	-.05	-.06	.01	.06	-.08	-.03	-.01	.01	.03	-.06	-.03
E15	.03	.01	-.02	.07	-.01	-.08	-.01	-.00	.00	.01	-.02	.01	-.06	-.06	-.14	.02	-.00	-.01	-.04	.04	-.06	.02	-.03
E16	-.05	-.03	-.05	-.11	.01	.04	-.04	-.01	-.08	-.12	-.04	-.06	-.11	-.10	-.07	-.02	-.03	-.13	-.12	-.05	-.02	.02	-.03
E17	.06	.12	.09	-.06	.06	-.09	-.04	-.00	-.09	-.08	.09	-.06	-.05	-.10	.07	.07	.04	.09	.12	.17	-.08	.04	-.04
E18	.11	.06	.12	.02	.04	-.11	.02	-.04	-.06	.04	.09	.06	-.07	-.02	.01	-.02	.03	.17	.10	.06	.16	.15	.15
E19	-.03	.10	-.04	.05	-.04	-.15	.02	-.01	-.02	-.09	-.01	-.08	-.02	.05	-.01	-.06	-.10	.02	.08	.09	.07	.01	.03
E20	.14	-.03	.08	.01	.10	.14	-.05	-.06	-.01	-.07	.14	.10	.05	-.04	.05	-.04	.01	-.01	-.05	.03	.06	-.00	.03
E21	.02	.04	.05	-.00	-.01	-.01	.07	-.04	-.07	-.07	-.11	-.05	.04	-.01	-.05	-.10	-.01	-.06	-.04	-.09	-.07	-.07	-.08
E22	.04	.05	-.08	.08	.01	-.14	.02	-.02	-.02	-.08	-.03	-.02	-.11	.04	-.03	-.06	-.03	.04	-.05	-.05	.02	-.03	.05
E23	-.05	.10	-.04	.04	-.05	-.04	.04	.01	-.04	-.03	-.09	-.01	-.06	.03	-.15	-.03	-.07	-.01	.08	.09	.12	.07	.09

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R) VS. THE JUSTIFICATION SECTION (19S) FOR THE CROSS VALIDATION SAMPLE - AT's AND BT's COMBINED (N=222)

	J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12	J13	J14	J15	J16	J17	J18	J19	J20	J21	J22	J23
E24	-.01	-.03	.17	.03	.01	.09	.20	-.02	.07	.07	-.02	.13	.20	.10	-.06	.11	.10	-.06	.09	.03	.03	.12	.05
E25	-.08	-.08	-.16	-.08	-.06	-.09	-.04	-.00	-.03	-.02	-.04	-.10	-.09	-.06	.02	.01	-.08	.03	-.02	-.05	-.03	-.07	.03
E26	.05	-.07	.11	.06	.04	-.06	-.03	.12	.11	.05	.11	.03	-.01	.02	.01	.10	-.02	.03	.08	-.01	.04	-.05	-.01
E27	-.03	-.02	-.04	-.05	.02	.05	-.08	.02	-.10	-.08	-.08	-.07	-.02	-.01	-.03	-.01	.05	-.11	.03	-.13	-.01	-.07	-.09
E28	.03	.03	.17	.00	.06	-.04	.11	.04	-.00	.11	.10	.10	-.03	-.06	.11	-.05	.06	.01	-.02	.10	.11	.06	-.07
E29	-.09	-.03	-.07	-.09	-.00	-.09	-.02	-.07	-.11	.06	-.09	-.01	-.06	-.03	-.01	.09	-.08	-.08	-.05	-.04	-.02	-.06	-.05
E30	.01	.07	.09	.03	-.04	-.16	.00	-.06	-.05	-.09	.01	.02	-.09	-.04	-.08	-.02	-.09	-.00	.06	-.01	.06	-.04	-.04
E31	.15	.24	.22	.11	.18	.05	.10	.09	.16	.12	.16	.07	.14	-.04	.04	.03	.08	.11	.10	.05	.18	.06	.12
E32	.05	.06	.07	-.03	.03	-.06	.02	-.06	.02	-.07	.03	.01	-.07	-.08	-.03	-.04	-.04	-.01	.05	.02	.01	-.01	.05
E33	.11	.07	.27	.21	.01	-.11	.18	-.07	.04	.07	.05	.14	.05	.07	.07	-.06	.08	-.08	.03	-.02	.21	.03	.02
E34	.03	-.04	.12	.02	-.06	.05	-.02	-.02	.03	-.06	.11	.03	.05	-.07	-.03	-.07	-.02	.00	.06	-.04	.13	.01	-.01
E35	-.05	-.02	-.02	.06	-.06	.08	.01	-.06	-.02	-.12	-.08	-.04	-.09	-.07	-.10	-.03	-.00	-.09	-.08	-.01	-.06	-.12	-.11
E36	-.02	-.06	.00	.12	-.05	.08	-.05	-.00	.01	.04	.01	-.02	.09	.11	-.01	.01	.09	-.03	-.00	.01	-.03	.01	-.02
E37	.12	.17	.19	.17	.10	-.05	.08	.03	.16	.04	.04	.15	.10	.05	-.03	.03	-.04	-.03	.14	.06	.14	.04	.08
E38	-.02	-.05	.08	-.05	.04	.04	-.0	-.03	-.04	-.09	.13	-.03	-.01	-.03	.04	.04	-.01	-.01	.10	-.03	-.04	-.02	-.00
E39	.02	.04	.12	.03	.03	-.07	-.10	.00	.13	-.01	.01	.09	.08	-.07	.02	.07	.00	.05	.14	-.03	-.03	.04	.06
E40	.04	.08	.01	.00	-.02	-.05	.03	.13	-.08	-.10	.05	-.01	-.10	.02	-.05	-.09	-.05	.03	-.03	.15	-.01	.03	-.07
E41	-.06	-.03	.03	-.02	-.05	-.12	-.03	-.08	-.03	-.05	.01	.10	-.0	-.00	-.05	.11	-.00	.10	.01	-.00	-.05	-.06	.01
E42	.05	.02	.17	-.08	-.08	.01	-.06	.06	-.03	.02	.08	.14	-.08	.04	-.02	-.02	.01	-.02	.09	-.02	-.04	-.06	-.11
E43	.05	.03	.01	.01	.01	-.08	-.05	.08	-.04	-.03	.08	-.01	.01	.00	.03	.04	.07	-.04	.11	-.02	.08	.03	.02
E44	-.02	.11	.01	-.07	.10	.07	-.06	-.04	.11	-.04	.14	-.01	-.02	-.05	.04	.08	-.05	-.01	.01	.06	.04	-.07	-.01
E45	.10	.02	.02	.08	-.05	-.08	.04	.01	.02	-.00	.02	.04	-.05	-.04	-.12	-.01	.01	.05	-.04	.00	-.06	.05	.05
E46	-.04	-.01	.04	-.09	-.01	.01	-.03	.02	-.08	-.08	.04	-.04	-.09	-.08	-.02	.02	-.01	-.12	-.06	-.02	.01	.06	.04

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R) VS. THE JUSTIFICATION SECTION (19S) FOR THE CROSS VALIDATION SAMPLE - AT's AND BT's COMBINED (N=222)

	J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12	J13	J14	J15	J16	J17	J18	J19	J20	J21	J22	J23
E47	.09	.15	.12	-.06	.06	-.09	-.07	.01	-.06	-.05	.08	-.05	-.02	-.09	.08	.11	.05	.12	.12	.20	-.09	.04	-.01
E48	.15	.04	.10	.01	.01	-.09	.02	-.04	-.02	.04	.08	.07	-.08	.00	.00	-.03	.03	.17	.11	.06	.18	.13	.13
E49	.02	.19	.04	.14	.05	-.12	.13	.03	.11	.00	.07	-.00	.04	.16	.03	.03	-.03	.03	.17	.12	.18	.13	.19
E50	.09	-.03	.12	.08	.05	.11	-.03	-.06	.06	-.03	.16	.12	.06	-.00	.10	-.02	.11	.01	.03	.07	.04	.06	.04
E51	-.00	.04	.02	-.02	-.04	-.03	.05	-.04	-.08	-.07	-.12	-.07	.01	-.00	-.06	-.11	.01	-.05	-.05	-.10	-.06	-.08	-.09
E52	.07	.10	-.01	.12	.02	-.15	.06	-.00	.01	-.08	-.01	-.01	-.08	.06	-.01	-.07	.04	.04	-.01	-.02	.10	-.00	.09
E53	-.03	.14	.01	.05	-.00	-.04	.04	.05	-.02	.04	-.02	.00	-.04	.06	-.11	.06	-.07	.03	.13	.13	.14	.10	.19
E54	.00	-.02	.19	.04	.01	.10	.20	-.02	.08	.08	-.01	.14	.21	.10	-.05	.12	.11	-.05	.10	.06	.04	.13	.06
E55	-.05	-.09	-.12	-.12	-.06	-.07	-.04	.02	-.01	-.02	-.01	-.10	-.09	-.03	.02	.02	-.07	.08	.02	-.02	-.01	-.06	.08
E56	.04	-.07	.10	.04	.03	-.07	-.06	.11	.11	.01	.11	-.00	.01	.03	.03	.11	-.01	-.01	.08	-.01	-.01	-.05	-.01
E57	.02	.04	-.00	-.03	.03	.05	-.05	.06	-.08	-.05	-.04	-.03	-.04	-.01	.00	-.02	.05	-.10	.05	-.11	.04	-.03	-.06
E58	.04	.06	.19	.01	.05	-.04	.14	.05	.01	.12	.09	.10	-.04	-.05	.15	-.02	.04	.03	.01	.10	.10	.10	-.02
E59	-.06	-.02	-.04	-.08	.01	-.08	.01	-.06	-.10	.06	-.06	-.01	-.04	-.02	-.04	.09	-.05	-.07	-.02	-.04	-.01	-.07	-.02
E60	.03	.06	.20	.08	-.02	-.11	.06	.02	.01	-.08	.06	.10	-.01	.02	-.11	.06	-.14	-.00	.16	.08	.09	.04	.09
E61	.16	.19	.28	.11	-.01	-.10	.14	.05	.11	.04	.12	.11	.05	.05	.02	.07	.12	.14	.22	.08	.20	.14	.23
E62	-.04	.01	.04	.01	.02	-.12	-.03	.01	-.03	-.07	.03	.01	-.09	.02	-.05	-.00	-.07	-.10	-.00	.03	.03	-.04	-.02
E63	-.01	.03	-.02	-.00	.01	-.09	-.04	-.09	-.12	-.09	-.02	.02	-.10	-.12	-.06	-.04	-.11	.04	.01	-.02	-.01	-.10	-.15
E64	-.09	-.11	-.16	-.09	-.10	-.07	-.08	-.05	-.13	-.13	-.15	-.14	-.10	-.06	-.12	-.14	-.09	-.07	-.16	-.12	-.12	-.12	-.19
E65	-.04	-.03	-.05	-.02	-.03	-.02	-.02	-.01	-.04	-.04	-.02	-.04	-.02	-.02	-.04	-.04	-.03	-.03	-.04	-.03	-.03	-.04	-.05
E66	.06	.13	.07	.07	.02	-.09	.04	.01	.02	-.12	.01	.08	-.03	.06	-.07	-.03	-.04	-.01	.09	.03	.07	.09	.03
E67	.00	.02	.08	.02	-.00	-.16	-.05	-.04	-.09	-.10	.02	.02	-.13	-.06	-.07	-.01	-.09	-.04	.06	.01	.05	-.06	-.07

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R) VS. THE JUSTIFICATION SECTION (19S) FOR THE CROSS VALIDATION SAMPLE - AT's AND BT's COMBINED (N=222)

	J24	J25	J26	J27	J28	J29	J30	J31	J32	J33	J34	J35	J36	J37	J38	J39	J40	J41	J42	J43	J44	J45	J46
E1	.01	.03	.07	.01	-.00	.00	.15	.08	.22	.14	.02	.17	.04	.06	.05	.08	.11	.11	-.02	.06	-.03	-.00	.03
E2	-.08	.00	-.03	-.00	-.03	-.01	-.01	-.01	.08	.05	-.06	.01	-.06	.03	-.07	.05	-.07	.10	-.01	-.10	-.08	-.01	-.03
E3	.01	-.03	-.07	-.01	.03	-.12	.01	.05	.03	.13	.13	-.03	-.13	.13	-.07	-.01	-.03	-.04	.05	.05	.03	-.01	-.10
E4	-.04	-.04	-.01	-.05	-.08	-.10	-.07	-.02	-.06	.04	.02	-.07	.02	-.05	-.05	-.06	-.12	.05	-.03	-.01	-.08	-.09	-.09
E5	-.01	-.10	-.11	-.08	-.05	-.08	-.11	-.05	.01	-.03	-.01	-.04	.06	.02	-.06	-.05	-.10	-.04	-.05	-.05	-.07	-.10	-.04
E6	-.01	.04	-.01	.08	.02	-.06	.01	-.01	-.08	.00	.12	-.04	.06	-.04	-.02	.00	.04	.05	.01	.08	.14	-.01	-.05
E7	.06	.05	-.02	.04	.16	.07	.08	.06	.09	.08	.14	.11	-.07	.03	.09	.11	-.03	-.00	.01	.08	.08	-.05	-.01
E8	-.04	.09	-.02	-.00	-.02	-.07	.02	-.01	-.04	.06	-.06	.09	.13	-.04	-.03	-.05	-.10	.07	-.03	-.02	-.04	-.01	.02
E9	-.02	.07	-.11	.05	-.03	.04	.06	.04	.03	.06	.02	.07	-.07	-.12	.03	.00	.04	-.03	.04	.04	-.10	.03	.11
E10	-.03	.02	-.04	-.15	.01	.01	-.03	.04	.10	-.06	-.05	-.06	-.05	-.03	.04	-.01	-.14	.02	-.03	-.10	-.05	-.09	-.10
E11	-.04	-.14	-.08	-.12	-.05	-.15	-.12	-.04	-.04	.01	-.07	-.10	-.13	-.04	-.09	-.06	-.12	-.03	.05	-.02	-.01	-.05	.01
E12	-.04	-.09	-.05	-.07	.11	-.07	-.02	.05	.01	.10	-.09	-.08	.00	-.07	.03	-.06	-.02	.05	.12	-.06	.04	-.03	.07
E13	-.02	.11	.11	-.01	.07	-.03	.06	.09	.02	.03	.09	-.01	-.09	-.06	.07	.00	-.01	.06	.02	-.02	.01	-.00	.10
E14	.01	-.01	-.10	.05	-.07	-.04	-.00	-.02	.08	-.03	-.08	.03	.06	-.07	-.05	.08	-.01	.07	-.06	-.02	-.05	.02	.06
E15	.04	-.04	-.13	-.04	.06	-.11	-.04	.03	.02	-.07	-.02	-.03	-.08	.00	-.03	-.01	-.06	-.01	.03	-.07	-.05	-.15	-.00
E16	-.02	-.07	-.03	-.07	-.05	-.09	-.09	-.06	-.02	-.06	-.08	-.00	.03	-.07	-.01	-.11	-.11	-.06	-.08	-.12	-.09	-.07	-.03
E17	.06	-.02	-.13	.04	.10	-.07	.04	.09	.13	.10	-.02	.03	-.09	-.04	-.03	-.08	-.10	.07	-.04	-.01	-.09	.07	.08
E18	-.05	.14	.08	.18	-.02	.25	.14	.12	.05	.13	.06	.02	-.11	.01	-.03	-.07	.09	.08	.03	-.06	-.04	-.00	-.02
E19	.13	-.09	-.05	-.10	-.01	-.02	-.03	-.03	.08	-.06	-.02	.00	-.15	.01	.00	.02	-.07	.01	-.07	-.02	.09	-.04	-.02
E20	-.03	.06	.11	.07	.00	.01	.06	.12	-.02	.09	.08	.07	.15	-.05	-.06	-.03	-.09	.11	.04	.01	-.05	.04	-.04
E21	.04	-.06	-.01	-.09	-.07	.08	-.07	.01	.05	.05	-.00	-.01	-.00	.03	-.04	-.06	-.06	-.09	-.08	.09	.01	-.05	-.08
E22	.03	.06	.04	-.02	.00	.03	-.02	.02	.05	-.10	.05	.02	-.14	.03	-.03	-.01	-.09	-.03	-.05	-.11	.04	-.03	-.08
E23	.03	-.04	.02	-.03	-.00	.06	-.01	-.07	.10	-.06	-.01	-.03	-.04	.04	-.01	-.05	-.01	-.12	-.03	-.06	.06	-.18	-.04

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R) VS. THE JUSTIFICATION SECTION (19J) FOR THE CROSS VALIDATION SAMPLE - AT's AND BT's COMBINED (N=222)

	J24	J25	J26	J27	J28	J29	J30	J31	J32	J33	J34	J35	J36	J37	J38	J39	J40	J41	J42	J43	J44	J45	J46
E24	.02	.02	.10	.07	.02	.20	.11	-.01	-.01	.20	.04	.04	.10	.19	-.01	.08	.08	-.03	.09	.23	.13	-.06	.08
E25	.05	.00	-.10	.05	-.10	-.05	-.07	-.07	-.09	-.16	-.07	-.07	-.09	-.03	-.01	-.05	-.02	-.02	-.09	-.10	-.07	.02	.02
E26	.07	.02	.02	.10	.05	.06	.07	.06	-.09	.08	.03	.02	-.06	-.05	.07	.12	.01	.10	.03	-.00	.01	-.01	.09
E27	-.10	-.02	-.05	-.17	-.08	-.05	-.09	-.02	-.02	-.02	-.02	.04	.06	-.06	.02	-.11	-.06	-.07	-.04	-.06	-.03	-.05	-.03
E28	-.02	.03	-.04	.09	.10	-.05	.09	.06	.07	.17	-.02	.03	-.05	.09	.00	.02	.07	.07	.12	-.02	-.04	.09	-.00
E29	-.08	-.06	-.10	.01	-.02	-.07	-.08	-.08	-.02	-.08	-.10	-.02	-.09	-.00	-.07	-.12	.07	-.08	-.01	-.06	-.03	-.02	.06
E30	.01	-.05	-.09	-.06	-.01	-.11	-.03	.01	.08	.05	-.00	-.05	-.16	-.00	-.10	-.06	-.11	.01	-.01	-.07	-.03	-.10	-.02
E31	.02	.09	.11	.04	.02	.04	.20	.11	.22	.21	.05	.19	.06	.09	.07	.12	.13	.14	.01	.11	-.04	.04	.04
E32	-.07	.03	-.00	.02	-.01	.02	.02	.01	.08	.05	-.05	.02	-.05	.04	-.06	.07	-.06	.08	-.01	-.08	-.07	-.01	-.03
E33	.03	.05	-.00	.06	.07	-.07	.11	.11	.08	.21	.18	.01	-.11	.16	-.06	.04	.04	.04	.11	.08	.09	.05	-.06
E34	-.03	.03	.04	.02	-.05	-.06	.03	.04	-.03	.13	.08	-.05	.04	-.02	-.03	-.00	-.07	.09	.00	.03	-.07	-.03	-.05
E35	-.00	-.11	-.11	-.07	-.04	-.10	-.12	-.06	.01	-.05	.02	-.05	.07	-.01	-.06	-.04	-.10	-.06	-.06	-.07	-.07	-.11	-.04
E36	-.00	.02	-.00	.08	.01	-.07	.01	-.00	-.08	.01	.13	-.04	.08	-.04	-.02	.02	.04	.04	.00	.12	.12	-.01	-.04
E37	.06	.10	.02	.08	.17	.15	.15	.12	.14	.17	.16	.13	-.05	.05	.05	.14	.03	.04	.04	.13	.08	-.03	.02
E38	-.03	.10	-.03	.05	-.03	-.06	.03	-.03	-.05	.08	-.05	.03	.06	-.04	-.03	-.05	-.09	.10	-.04	-.03	-.03	.03	.03
E39	.00	.09	-.09	.05	-.01	.02	.07	.03	.05	.09	.03	.03	-.06	-.10	.02	.08	.01	-.03	.06	.06	-.09	.02	.08
E40	-.03	-.01	-.01	-.11	-.00	.06	-.02	.05	.10	-.03	-.00	-.06	-.05	.01	.06	-.06	-.12	.05	-.02	-.08	-.03	-.05	-.09
E41	.01	-.09	-.04	-.04	-.03	-.09	-.03	-.05	-.02	.01	-.04	-.07	-.12	-.01	-.09	-.03	-.06	.03	.10	-.00	-.00	-.04	.09
E42	-.04	-.06	-.02	-.05	.08	-.02	.01	.07	.04	.14	-.07	-.09	.01	-.04	.07	-.02	-.04	.07	.14	-.04	.03	-.02	.03
E43	-.04	.09	.08	-.01	.09	-.05	.05	.07	.03	.02	.08	-.02	-.08	-.04	.04	-.01	-.03	.07	-.01	-.00	-.01	.01	.06
E44	-.00	.04	-.08	.08	-.02	-.02	.04	.00	.11	.02	-.07	.11	.07	-.05	-.04	.09	-.05	.08	-.03	.01	-.04	.04	.10
E45	.11	-.01	-.09	.02	.03	-.09	.01	.07	.04	-.02	.00	-.06	-.08	.06	-.01	.01	-.05	.04	.03	-.05	-.03	-.13	-.02
E46	-.00	-.02	.06	.01	-.02	-.05	-.02	-.05	.00	.03	-.07	-.02	.01	-.05	.00	-.10	-.06	.01	-.06	-.10	-.07	-.03	.00

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R) VS. THE JUSTIFICATION SECTION (19S) FOR THE CROSS VALIDATION SAMPLE - AT's AND BT's COMBINED (N=222)

	J24	J25	J26	J27	J28	J29	J30	J31	J32	J33	J34	J35	J36	J37	J38	J39	J40	J41	J42	J43	J44	J45	J46
E47	.05	-.03	-.14	.07	.14	-.08	-.06	.13	.16	.14	-.03	.03	-.09	-.07	-.02	-.06	-.08	.05	-.02	.03	-.08	.09	.12
E48	-.04	.14	.06	.20	.00	.28	.14	.16	.04	.11	.06	-.01	-.09	-.03	-.03	-.03	.07	.06	.02	-.07	-.02	-.00	-.01
E49	.17	.02	.01	.01	.07	.03	.13	.01	.17	.01	.04	.11	-.12	.10	.06	.15	.02	.08	-.01	.02	.22	-.01	.04
E50	-.04	.08	.18	.13	.01	.09	.12	.09	-.02	.13	.16	.03	.10	-.03	-.06	.04	-.06	.12	.07	.02	-.03	.09	-.02
E51	.03	-.07	-.03	-.10	-.08	.04	-.09	-.01	.05	.02	-.00	-.03	-.02	.02	-.05	-.06	-.08	-.11	-.09	.05	.03	-.05	-.10
E52	.07	.10	.09	-.00	.02	.05	.04	.05	.10	-.03	.09	.04	-.15	.08	-.01	.01	-.09	-.00	-.05	-.09	.07	-.02	-.09
E53	.05	.02	.03	-.00	.03	.08	.08	-.05	.14	-.00	.01	.03	-.03	.04	.03	-.03	.07	-.04	-.02	-.04	.07	-.14	.03
E54	-.05	.04	.11	.08	.03	.21	.13	-.00	.00	.21	.05	.05	.11	.19	-.00	.09	.10	-.01	.10	.24	.13	-.05	.09
E55	.08	.02	-.08	.07	-.09	-.01	-.04	-.04	-.09	-.13	-.11	-.07	-.08	-.04	.02	-.02	-.01	.01	-.10	-.09	-.05	.02	.02
E56	.07	.04	.03	.10	.01	.04	.06	.05	-.08	.07	.02	.02	-.07	-.06	.06	.14	-.01	.10	.00	.01	.02	.01	.10
E57	-.06	-.02	.01	-.12	-.06	-.04	-.05	.01	.04	.01	-.02	.05	.05	-.03	.07	-.09	-.03	-.05	-.01	-.05	-.02	-.02	-.05
E58	.01	.09	-.03	.13	.13	-.01	.13	.07	.07	.20	-.00	.01	-.04	.11	.01	.02	.08	.07	.13	-.02	-.03	.14	.04
E59	-.07	-.04	-.07	.04	.01	-.07	-.05	-.04	-.01	-.04	-.09	-.01	-.08	.03	-.06	-.11	.08	-.04	-.00	-.05	-.02	-.05	.06
E60	.06	-.11	-.13	.05	.05	-.04	.05	.04	.08	.17	.06	-.03	-.11	.06	.00	.02	-.09	.02	.06	-.00	.03	-.15	.05
E61	.04	.13	.08	.15	.02	.14	.23	.15	.19	.28	.13	.01	-.10	.14	.05	.10	.05	.13	.05	.05	.08	.00	.07
E62	.09	-.02	-.05	-.03	.07	-.11	-.03	-.03	.02	-.02	-.04	.01	-.12	-.04	-.03	-.02	-.08	.01	-.01	-.07	.01	-.07	-.02
E63	-.10	-.09	-.16	-.10	-.07	-.11	-.10	.01	.04	-.04	-.02	-.03	-.09	-.05	-.10	-.15	-.12	-.04	.01	-.07	-.12	-.06	-.02
E64	-.06	-.16	-.11	-.17	-.11	-.12	-.24	-.08	-.11	-.15	-.09	-.09	-.07	-.07	-.05	.12	-.13	-.14	-.13	-.09	-.06	-.12	-.12
E65	.26	-.05	-.03	-.05	-.03	-.03	-.06	-.04	-.03	-.05	-.02	-.03	-.02	-.02	-.01	-.03	-.04	-.07	-.03	-.02	-.01	-.04	-.03
E66	.02	.05	-.04	-.01	.04	-.03	.04	.05	.14	.03	.03	.04	-.09	.03	-.00	.02	-.14	-.01	.03	-.03	.07	-.10	-.03
E67	-.01	-.03	-.11	-.06	-.03	-.10	-.05	.02	.03	.04	.01	-.03	-.16	-.06	-.07	-.09	-.12	.00	-.01	-.12	-.05	-.09	-.01

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R) VS. THE JUSTIFICATION SECTION (19S) FOR THE CROSS VALIDATION SAMPLE - AT's AND BT's COMBINED (N=222)

	J47	J48	J49	J50	J51	J52	J53	J54	J55	J56	J57	J58	J59	J60	J61	J62	J63	J64	J65	J66	J67
E1	.05	.09	.07	.05	.16	.03	.08	.03	-.02	.09	.04	-.01	-.02	.13	.09	.16	.16	-.07	-.04	.15	.12
E2	-.05	-.01	.05	.05	-.04	-.01	.03	-.07	-.01	.01	.03	-.04	-.01	.01	.01	-.01	-.05	-.04	-.03	.01	-.02
E3	.02	-.10	-.04	-.04	.16	-.01	-.07	.03	-.07	-.05	.05	-.01	-.14	-.01	-.03	-.08	.09	.07	-.05	.00	-.01
E4	-.03	-.05	.05	-.08	.04	-.07	-.11	-.03	-.07	.03	-.02	-.09	-.09	-.07	-.07	-.06	-.03	-.04	-.03	-.08	-.08
E5	-.03	-.10	-.05	-.05	-.05	-.12	-.13	-.00	-.10	-.11	-.08	-.06	-.10	-.12	-.09	-.10	-.08	-.04	-.02	-.13	-.09
E6	.08	.00	.02	-.02	-.06	.01	-.03	.00	.04	.01	.09	.03	-.04	.02	.02	-.03	.01	.05	-.02	.00	.03
E7	.06	-.07	.08	.01	.11	.01	.03	.07	.03	-.06	.04	.11	.02	.06	.02	-.02	.17	.15	-.02	.08	.04
E8	-.02	-.05	-.00	.00	-.04	-.07	.04	-.03	.07	-.01	-.03	-.00	-.07	.01	-.04	.04	.04	-.02	-.01	.07	-.02
E9	-.02	.02	.17	-.01	-.04	.01	.03	-.05	.08	-.11	.03	-.04	.04	.04	.06	.05	.08	-.02	.06	.03	.07
E10	-.08	.08	-.02	.12	.01	.06	-.05	-.08	.00	-.03	-.13	.05	.01	-.04	-.05	-.05	-.01	.00	.10	-.03	-.05
E11	-.09	.06	-.06	-.02	-.05	-.10	-.13	-.04	-.15	-.05	-.11	-.03	-.15	-.12	.03	-.06	-.12	.00	.00	-.11	-.12
E12	-.03	-.02	.07	.05	-.02	-.07	-.14	-.02	-.11	-.01	-.09	.11	-.11	-.03	-.07	.00	-.01	-.00	-.03	-.03	.00
E13	.05	.00	.12	-.01	.05	.04	.00	-.01	.10	.10	.03	.07	.01	.06	.02	.03	.04	-.04	-.02	.04	.07
E14	-.07	-.02	.00	.02	.03	-.09	-.03	-.10	-.01	-.10	.03	-.06	-.07	-.01	-.04	.01	.00	.08	.21	-.02	.01
E15	-.04	-.01	-.03	.05	-.05	.03	-.06	.06	-.07	-.11	-.03	.05	-.11	-.06	-.07	-.06	.04	.09	-.03	-.03	-.05
E16	-.04	-.13	-.14	-.05	-.03	.02	-.05	-.00	-.07	.01	-.04	-.03	-.06	-.11	-.08	-.10	-.04	-.05	-.03	-.09	-.12
E17	.05	.09	.07	.19	-.03	.04	-.06	.07	-.02	-.10	.07	.14	-.08	.04	.00	.01	.04	-.05	-.03	.03	.06
E18	-.00	.17	.12	.07	.09	.12	.15	-.04	.09	.04	.17	-.08	.26	.13	.04	.07	.16	.08	-.03	.11	.15
E19	-.11	.00	.03	.06	.13	.07	-.00	.10	-.08	-.06	.09	-.05	-.05	-.03	-.03	-.08	.02	-.02	.07	.01	-.11
E20	.02	.02	-.06	.02	.01	-.02	.03	-.02	.04	.11	.01	.01	.04	.05	-.01	.02	.11	-.04	-.02	.08	.07
E21	.01	-.05	.01	-.10	-.06	-.07	-.08	-.03	-.08	-.04	-.06	-.08	-.00	-.07	-.03	-.09	-.06	.11	.15	-.07	-.03
E22	-.02	.02	-.08	-.03	.03	-.01	.03	.06	.04	.05	-.00	-.01	.04	-.03	-.01	-.03	.02	.03	-.05	-.03	-.07
E23	-.06	-.01	.06	.07	.16	.06	.08	.03	-.05	-.03	-.05	.00	.01	-.03	.08	-.02	.07	-.04	-.01	-.01	-.05

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R) VS. THE JUSTIFICATION SECTION (19S) FOR THE CROSS VALIDATION SAMPLE - AT's AND BT's COMBINED (N=222)

	J47	J48	J49	J50	J51	J52	J53	J54	J55	J56	J57	J58	J59	J60	J61	J62	J63	J64	J65	J66	J67
E24	.10	-.06	.12	-.00	.03	.09	.07	-.05	.02	.08	.06	.04	.15	.12	.07	.04	.10	.11	.16	.12	.16
E25	-.09	.02	-.05	-.05	-.05	-.06	.01	.08	-.02	-.07	.07	-.07	-.05	-.08	.13	.01	-.05	-.09	-.05	-.10	-.05
E26	-.04	.04	.11	.02	.04	-.02	-.01	.03	.01	.02	.09	.02	.06	.06	.00	.01	.09	.11	.10	.05	.07
E27	.08	-.10	.02	-.12	-.01	-.07	-.09	-.08	-.05	-.06	-.15	-.07	-.06	-.09	-.01	-.02	-.10	-.08	-.05	-.09	-.09
E28	.08	.03	-.01	.15	.15	.09	-.06	-.01	.05	-.00	.14	.14	-.04	.11	.05	.06	.04	.01	-.03	.09	.08
E29	-.08	-.09	-.04	-.02	-.04	-.07	-.07	-.07	-.08	-.11	-.01	-.03	-.07	-.09	-.08	-.06	-.05	.13	-.02	-.08	-.07
E30	-.08	.00	.04	.02	.08	-.03	-.07	.01	-.09	-.07	-.03	-.01	-.14	-.05	.02	-.04	.03	.01	-.00	-.04	-.06
E31	.09	.13	.09	.05	.17	.05	.11	.04	.03	.13	.07	.02	.01	.18	.07	.17	.21	-.06	-.04	.20	.19
E32	-.04	.03	.06	.06	-.02	.02	.06	-.06	.02	.03	.05	-.03	.02	.04	.02	.02	-.03	-.04	-.02	.04	.02
E33	.08	-.09	.03	.00	.21	.04	.01	.05	-.00	.01	.12	.02	-.10	.10	.03	.00	.18	.07	-.04	.09	.11
E34	.02	-.01	.06	-.04	.10	-.00	-.04	-.02	-.01	.07	.06	-.06	-.04	.02	-.02	.01	.05	-.04	-.02	.01	.04
E35	-.05	-.09	-.07	-.03	-.06	-.12	-.12	.01	-.11	-.12	-.07	-.05	-.11	-.13	-.09	-.10	-.08	-.03	-.02	-.13	-.10
E36	.07	.00	.01	-.01	-.05	.01	-.01	.01	.02	.02	.10	.03	-.05	.03	.03	-.04	.01	.06	-.02	.01	.04
E37	-.05	-.05	.16	.04	.13	.02	.07	.07	.07	-.03	.08	.12	.07	.13	.05	.04	.23	.14	-.02	.14	.14
E38	-.00	-.04	.04	-.02	-.04	-.05	-.01	-.03	.08	-.02	.02	-.02	-.06	.01	-.05	.06	.05	-.02	-.01	.08	-.01
E39	-.02	.02	.14	-.04	-.03	.03	.06	.01	.11	-.09	.04	-.01	.02	.06	.08	.08	.07	-.04	.02	.04	.09
E40	-.06	.06	-.01	.10	.00	.05	-.05	-.07	-.02	-.01	-.11	.05	.03	-.03	-.04	-.04	.02	.00	.10	-.02	-.02
E41	-.04	.07	.02	.03	-.02	-.04	-.00	.01	-.10	-.01	-.03	-.00	-.09	-.03	.08	.03	-.04	-.02	-.01	-.04	-.01
E42	.03	-.02	.10	.01	-.03	-.05	-.11	-.03	-.08	.02	-.07	.09	-.08	.00	-.04	.03	-.00	.03	-.03	-.01	.05
E43	.07	-.03	.11	.02	.06	.06	.02	-.03	.07	.09	.03	.11	-.02	.06	.02	.02	.03	-.04	-.02	.04	.08
E44	-.04	.00	-.02	.09	.04	-.08	-.03	-.07	.04	-.08	.05	-.01	-.05	.03	-.03	.06	.04	.04	.13	.02	.06
E45	-.03	.05	-.02	.02	-.05	.05	.01	.12	-.04	-.07	.03	.01	-.10	-.01	-.05	-.02	.06	.03	-.02	.01	.02
E46	-.01	-.12	-.08	-.04	-.02	.04	.02	.01	-.03	.10	.06	-.01	-.03	-.03	-.04	-.04	.03	-.04	-.02	-.02	-.04

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R) VS. THE JUSTIFICATION SECTION (19S) FOR THE CROSS VALIDATION SAMPLE - AT's AND BT's COMBINED (N=222)

	J47	J48	J49	J50	J51	J52	J53	J54	J55	J56	J57	J58	J59	J60	J61	J62	J63	J64	J65	J66	J67
E47	.06	.12	.08	.23	-.05	.04	-.03	.07	-.02	-.12	.09	.16	-.09	.07	.02	.03	.06	-.04	-.03	.05	.07
E48	.00	.19	.13	.07	.11	.12	.13	-.03	.11	.03	.19	-.05	.30	.14	.05	.07	.15	.02	-.03	.11	.17
E49	-.06	-.00	.11	.10	.27	.21	.17	.16	.03	-.03	.01	.01	.01	.13	.06	.03	.17	-.03	.03	.16	.04
E50	.12	.05	.02	.06	-.00	.03	.06	-.03	.07	.16	.03	.02	.13	.10	.03	.04	.17	-.03	-.02	.11	.14
E51	.04	-.06	-.02	-.10	-.06	-.09	-.09	-.06	-.09	-.06	-.07	-.09	-.02	-.10	-.04	-.11	-.07	.15	.20	-.09	-.06
E52	.02	.02	-.04	-.01	.09	.03	.08	.09	.07	.07	.03	-.01	.06	.03	-.01	-.01	.08	.04	-.05	.02	-.01
E53	-.05	.01	.12	.12	.17	.10	.19	.05	.01	-.02	-.01	.02	.04	.07	.18	.09	.10	-.04	-.01	.07	.05
E54	.11	-.05	.13	.01	.04	.10	.09	.01	.04	.09	.08	.05	.16	.14	.08	.05	.11	-.01	-.14	.13	.18
E55	-.08	.07	-.02	-.02	-.03	-.05	.07	.10	-.01	-.04	.08	-.06	-.02	-.04	.12	.02	-.02	-.08	-.05	-.06	-.00
E56	-.03	.00	.10	.01	-.01	-.02	.00	.05	.03	.02	.09	-.01	.04	.05	-.00	.03	.06	.09	.04	.04	.05
E57	.06	-.08	.04	-.11	.04	-.04	-.07	-.04	-.04	.01	-.09	-.05	-.05	-.05	-.03	.00	-.05	-.07	-.04	-.05	-.05
E58	.07	.04	.04	.17	.14	.13	-.00	.02	.10	-.00	.18	.17	.00	.15	.08	.09	.05	.01	-.02	.13	.12
E59	-.04	-.08	-.01	-.02	-.03	-.08	-.03	-.06	-.06	-.09	.04	-.01	-.07	-.06	-.06	-.05	-.03	.13	-.02	-.05	-.03
E60	-.18	.02	.14	.09	.12	.04	.07	.08	-.11	-.13	.07	.05	-.04	.04	.07	.02	.11	-.00	-.04	.05	.07
E61	.11	.13	.21	.08	.18	.16	.25	.07	.09	.05	.18	.00	.11	.24	.23	.20	.20	-.05	-.06	.20	.28
E62	-.06	-.10	-.01	.06	.07	-.03	-.06	.10	-.06	-.01	.00	.08	-.14	-.05	-.07	-.10	.07	.04	-.03	-.03	-.07
E63	-.12	.04	-.01	-.00	.00	-.09	-.19	-.13	-.11	-.14	-.09	-.07	-.11	-.13	-.02	-.06	-.04	.03	.06	-.11	-.12
E64	-.09	-.06	-.15	-.12	-.10	-.12	-.19	-.05	-.15	-.11	-.16	-.11	-.11	-.24	-.12	-.19	-.20	-.03	-.02	-.21	-.28
E65	-.03	-.03	-.04	-.03	-.03	-.04	-.05	-.20	-.05	-.03	-.05	-.03	-.03	-.08	-.04	-.06	-.05	.40	1.00	-.05	-.06
E66	-.05	-.01	.06	.04	.12	.10	.01	.04	.02	-.03	.02	.03	-.05	.02	.04	-.01	.11	-.03	-.03	.05	-.01
E67	-.08	-.03	.05	.04	.05	-.05	-.09	-.04	-.08	-.08	-.03	-.04	-.12	-.07	-.03	-.08	.05	.08	.05	-.06	-.06

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R)
FOR THE GENERALIZATION SAMPLE - CS's AND RM's COMBINED (N=222)

	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	E12	E13	E14	E15	E16	E17	E18	E19	E20	E21	E22	E23
E1		.06	.12	-.00	.05	.09	.03	-.09	.04	.04	.09	.07	.04	.01	.05	.09	.07	.08	.04	.08	-.00	.01	.13
E2			.29	.16	.25	.05	.20	.13	.02	.21	.16	.07	-.02	.02	.08	.22	.01	.12	.10	.32	-.01	.38	.30
E3				.22	.33	-.01	.07	-.03	.03	.17	.37	.16	.12	.05	.22	.25	.10	.35	.23	.23	-.08	.37	.07
E4					.16	.03	.07	.19	.03	.13	.27	.06	-.05	.15	.13	.25	.10	.11	.15	.16	-.06	.09	.21
E5						.05	.20	.05	.06	.01	.00	.11	.07	.06	-.04	.30	-.01	.09	.07	.29	-.02	.10	.11
E6							-.06	-.04	-.04	-.02	-.10	.07	-.03	.07	-.06	-.01	-.01	.01	.05	.16	.05	.16	.07
E7								.02	-.07	.03	-.03	.02	-.05	.14	.01	-.01	.11	-.04	-.07	.12	.06	.21	.19
E8									-.02	-.07	-.05	-.01	-.02	-.04	-.06	.01	-.05	-.02	.01	-.05	.02	.04	-.01
E9										.02	.19	.23	.23	.21	.08	.22	.02	.23	.11	-.09	-.01	.12	.11
E10											.33	.18	.05	.09	.34	.16	.20	.17	.15	.09	-.11	.15	.14
E11												.30	.36	-.01	.33	.31	.19	.44	.26	.13	-.04	.14	.11
E12													.20	.28	.14	.14	.07	.19	.21	.15	.06	.16	.07
E13														-.03	.11	.18	.04	.15	.03	.03	-.05	-.03	-.02
E14															.08	.17	-.01	-.07	-.02	.05	.06	.07	.12
E15																.14	.04	.08	.12	.02	-.05	.02	-.00
E16																	.17	.26	.14	.36	-.07	.06	.19
E17																		.22	.18	-.05	.05	.22	.05
E18																			.23	.17	.01	.27	.05
E19																				.01	.05	.16	-.06
E20																					-.04	.06	.31
E21																						.04	.04
E22																							.17
E23																							

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R)
FOR THE GENERALIZATION SAMPLE - CS's AND RM's COMBINED (N=222)

	E24	E25	E26	E27	E28	E29	E30	E31	E32	E33	E34	E35	E36	E37	E38	E39	E40	E41	E42	E43	E44	E45	E46
E1	.04	.15	.04	.05	-.00	.03	.24	.89	-.06	.11	-.00	.06	.09	.01	-.09	.00	.05	.08	.08	.08	.06	.01	.10
E2	.04	.11	.05	.04	.26	.12	.49	-.06	.87	.30	.17	.27	.05	.17	.13	-.03	.25	.22	.08	.01	-.07	.09	.20
E3	-.03	.29	.21	.11	.10	.20	.61	.07	.31	.89	.22	.31	-.02	.09	-.03	.02	.24	.38	.19	.11	.03	.21	.28
E4	.14	.01	.06	.19	-.02	.08	.36	-.01	.16	.28	.96	.16	.04	.06	.19	.05	.20	.37	.05	-.04	.07	.16	.25
E5	-.08	.22	-.02	.20	.01	-.02	.34	.06	.25	.28	.17	.96	.06	.28	.05	.09	.03	.03	.11	.11	-.03	-.05	.28
E6	.02	.11	.04	-.08	.09	.04	.12	.06	.05	.02	.04	.08	.96	-.06	-.04	-.03	.02	-.08	.04	-.03	.10	-.06	.01
E7	.07	.04	.00	.05	.10	.07	.21	.06	.20	.09	.05	.13	-.06	.91	.02	-.05	.05	-.05	-.06	-.05	-.05	.01	-.07
E8	.01	-.07	-.05	-.03	-.00	-.06	-.01	-.09	.10	-.03	.18	.02	-.04	.02	1.00	-.01	-.06	-.04	.00	-.02	-.03	-.05	.02
E9	.04	.17	.18	.15	.23	.11	.32	-.03	-.06	-.01	-.02	.05	-.04	-.05	-.02	.91	.07	.17	.24	.13	.27	.13	.23
E10	-.08	.06	.16	.34	.14	.22	.42	.02	.26	.21	.16	.04	-.03	.03	-.07	.04	.89	.39	.25	-.00	.02	.37	.18
E11	.07	.23	.27	.29	.26	.26	.64	.04	.22	.36	.27	.01	-.10	-.03	-.05	.18	.34	.87	.34	.24	-.03	.34	.40
E12	.10	.24	.15	.15	.17	.04	.43	.05	.08	.16	.04	.11	.05	.04	-.01	.24	.21	.27	.93	.22	.21	.15	.14
E13	.10	.00	.24	.17	.08	.03	.21	.06	-.01	.11	-.04	.04	-.03	-.04	-.02	.29	.08	.32	.23	.90	-.03	.09	.28
E14	-.04	.17	.04	.10	-.02	-.06	.20	-.01	-.00	.05	.12	.06	.09	.21	-.04	.22	.12	-.03	.22	-.03	.69	.12	.03
E15	-.08	.08	.24	.14	-.01	.07	.30	.09	.12	.22	.11	-.04	-.06	-.01	-.06	.09	.38	.31	.17	.12	.13	.97	.15
E16	.07	.20	.19	.23	.04	.15	.48	.03	.20	.25	.24	.33	.00	-.01	.01	.23	.22	.30	.17	.11	.06	.15	.91
E17	.10	.05	.05	.13	.13	.04	.28	.09	.03	.16	.11	.00	.00	.00	-.05	.03	.22	.17	.10	.00	.02	.05	.18
E18	.11	.13	.28	.21	.15	.33	.52	.06	.17	.43	.14	.08	.02	-.02	-.02	.26	.23	.45	.25	.08	-.05	.10	.37
E19	-.07	.16	.14	.05	.09	.18	.36	.05	.11	.27	.14	.08	.06	-.09	.01	.11	.21	.20	.19	.04	.03	.11	.19
E20	.15	.13	-.05	.23	.03	.08	.39	.03	.32	.20	.16	.34	.14	.12	-.05	-.05	.17	.18	.14	.04	-.02	.03	.36
E21	.07	.01	.05	-.03	-.10	-.03	.04	.02	-.05	-.07	-.07	-.02	.06	-.01	.02	.01	-.10	-.04	.06	-.04	.06	-.08	-.06
E22	-.01	.23	.10	.11	.20	.27	.53	-.01	.37	.34	.09	.13	.17	.17	.04	.09	.20	.14	.14	-.05	-.00	.06	.05
E23	.07	.08	-.08	.23	.09	.07	.46	-.00	.17	.11	.22	.12	.04	.13	-.01	.05	.17	.11	.05	-.03	-.05	.01	.14

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R)
FOR THE GENERALIZATION SAMPLE - CS's AND RM's COMBINED (N=222)

	E24	E25	E26	E27	E28	E29	E30	E31	E32	E33	E34	E35	E36	E37	E38	E39	E40	E41	E42	E43	E44	E45	E46
E24		-.04	.02	-.02	.08	.05	.12	-.01	.06	.02	.14	-.09	.02	-.03	.01	.06	-.01	.11	.14	.07	.00	-.06	.13
E25			.09	.09	.13	.16	.49	.13	.12	.24	-.00	.24	.10	.02	-.07	.17	.07	.10	.23	.00	.10	.08	.17
E26				.13	.10	.17	.31	.04	.03	.20	.02	-.01	.05	-.04	-.05	.21	.16	.25	.20	.21	.08	.22	.23
E27					.07	.16	.41	.09	.06	.14	.18	.18	-.09	.07	-.03	.15	.36	.34	.17	.18	.04	.17	.26
E28						.14	.34	-.02	.28	.15	-.03	.02	.07	.06	-.00	.25	.17	.24	.15	.02	.03	.01	.08
E29							.36	.02	.15	.24	.11	-.00	.03	-.08	-.06	.11	.23	.29	.09	-.01	-.03	.07	.21
E30								.15	.47	.61	.35	.34	.11	.17	-.01	.30	.50	.61	.45	.16	.10	.31	.51
E31									-.06	.11	-.01	.06	.05	.05	-.09	.03	.03	.06	.05	.11	.03	.05	.06
E32										.34	.18	.27	.05	.17	.10	-.01	.29	.28	.11	.02	-.07	.13	.23
E33											.29	.24	.00	.11	-.03	.04	.31	.43	.20	.10	.02	.22	.29
E34												.19	.05	.05	.18	-.00	.23	.40	.04	-.04	.04	.15	.26
E35													.09	.18	.02	.07	.06	.01	.13	.03	-.03	-.06	.30
E36														-.07	-.04	-.02	.02	-.08	.03	-.03	.13	-.06	.02
E37															.02	-.03	.03	-.03	-.05	-.04	.01	-.01	-.08
E38																-.01	-.06	-.04	.00	-.02	-.03	-.05	.02
E39																	.09	.19	.26	.18	.27	.14	.27
E40																		.43	.29	.02	.09	.42	.27
E41																			.35	.22	.02	.33	.42
E42																				.23	.29	.19	.23
E43																					-.02	.06	.19
E44																						.17	.11
E45																							.17
E46																							

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R)
FOR THE GENERALIZATION SAMPLE - CS's AND RM's COMBINED (N=222)

	E47	E48	E49	E50	E51	E52	E53	E54	E55	E56	E57	E58	E59	E60	E61	E62	E63	E64	E65	E66	E67
E1	.07	.06	.02	.07	.01	-.02	.10	.01	.18	.02	.04	.02	.04	.20	.20	.13	.19	.14	.08	.16	.25
E2	.03	.10	.13	.29	-.00	.35	.28	.03	.11	-.01	.07	.19	.15	.47	.34	.44	.32	.16	.06	.53	.36
E3	.14	.33	.19	.20	-.05	.34	.09	-.02	.29	.19	.10	.01	.22	.57	.40	.52	.49	.10	-.05	.46	.49
E4	.13	.10	.15	.14	-.05	.10	.27	.15	.03	.01	.21	-.02	.13	.43	.43	.28	.16	-.04	-.02	.36	.32
E5	-.01	.11	.02	.27	.02	.09	.11	-.08	.25	.00	.21	-.03	-.00	.33	.24	.28	.26	.01	-.03	.31	.35
E6	-.02	.00	.05	.14	.02	.14	.06	.03	.14	.04	-.05	.03	.05	.12	.03	.18	.08	-.07	-.02	.12	.13
E7	.07	-.06	-.10	.08	.07	.22	.10	.03	.00	-.04	.05	.06	-.07	.15	.04	.18	.24	.08	.13	.28	.27
E8	-.05	-.04	.05	-.05	.01	.06	.03	.01	-.06	-.04	.01	.01	-.06	.03	.00	.04	-.05	-.05	-.01	.06	.02
E9	.05	.20	.13	-.08	-.03	.13	.07	.05	.17	.13	.11	.25	.06	.25	.10	.14	.25	.08	-.03	.21	.36
E10	.21	.17	.15	.04	-.11	.15	.17	-.10	.05	.08	.26	.08	.24	.42	.37	.31	.31	.04	.08	.41	.37
E11	.20	.43	.34	.08	-.04	.13	.16	.07	.24	.18	.25	.27	.25	.61	.50	.48	.48	.16	.01	.49	.53
E12	.07	.21	.27	.12	.05	.16	.07	.11	.25	.08	.12	.15	.00	.39	.23	.36	.44	-.05	-.03	.27	.45
E13	.06	.19	.10	.05	-.04	-.01	-.02	.11	.04	.15	.14	.10	-.01	.21	.14	.22	.14	-.04	-.01	.13	.21
E14	-.01	-.05	-.02	.04	.05	.06	.08	-.03	.17	.03	.11	-.03	-.06	.15	.07	.20	.16	.11	-.02	.21	.24
E15	.04	.04	.15	-.02	-.04	.04	.03	-.12	.05	.13	.10	-.02	.07	.29	.21	.27	.21	.01	.13	.25	.33
E16	.18	.22	.15	.34	-.06	.07	.21	.08	.23	.12	.22	.04	.13	.46	.34	.43	.34	.06	-.03	.40	.42
E17	.92	.25	.12	.07	.06	.23	.07	.11	.04	.04	.13	.13	.05	.28	.20	.25	.21	.01	-.02	.21	.30
E18	.26	.95	.25	.14	-.01	.28	.09	.11	.14	.27	.19	.15	.29	.55	.48	.39	.39	.08	-.03	.35	.45
E19	.14	.20	.91	-.02	.06	.15	.00	-.09	.19	.15	.07	.08	.16	.35	.22	.34	.28	-.02	.07	.22	.38
E20	-.04	.18	.05	.96	-.03	.02	.31	.12	.13	-.06	.23	-.02	.10	.39	.34	.31	.25	.06	.13	.40	.32
E21	.03	.03	.01	-.05	.97	.05	-.01	.07	.03	.05	-.03	-.07	-.03	.02	-.03	.03	.09	.02	-.02	.01	.11
E22	.26	.23	.13	.03	.06	.96	.13	.00	.22	.09	.11	.16	.27	.48	.31	.50	.40	.10	-.05	.46	.45
E23	.05	.06	-.05	.25	.02	.12	.93	.05	.03	-.12	.25	.08	.09	.41	.35	.35	.28	.26	.07	.63	.31

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R)
FOR THE GENERALIZATION SAMPLE - CS's AND RM's COMBINED (N=222)

	E47	E48	E49	E50	E51	E52	E53	E54	E55	E56	E57	E58	E59	E60	E61	E62	E63	E64	E65	E66	E67
E24	.09	.11	-.07	.16	.06	-.00	.06	.96	-.00	.00	-.02	.07	.05	.16	.21	.11	-.04	.00	.13	.15	.12
E25	.05	.11	.16	.09	.04	.22	.06	-.07	.89	.07	.07	.09	.17	.38	.18	.44	.47	.17	.11	.33	.49
E26	.07	.30	.16	-.06	.08	.14	-.07	.02	.10	.90	.09	.08	.18	.29	.27	.17	.29	.02	-.02	.22	.33
E27	.14	.24	.09	.17	-.01	.12	.28	-.01	.09	.03	.91	.05	.18	.45	.43	.28	.27	.02	-.04	.44	.39
E28	.10	.15	.18	.01	-.10	.17	.07	.05	.13	.02	.04	.94	.11	.31	.16	.32	.34	-.06	.11	.28	.34
E29	.08	.26	.17	.03	-.01	.22	.09	.01	.18	.13	.18	.11	.96	.38	.29	.34	.22	-.00	.15	.26	.33
E30	.30	.49	.37	.31	.05	.50	.45	.10	.47	.21	.38	.28	.37	.94	.69	.84	.76	.19	.07	.87	.90
E31	.09	.04	.03	.02	.04	.00	-.02	-.03	.14	-.01	.07	.00	.03	.16	.16	.10	.13	-.07	.07	.08	.24
E32	.06	.14	.15	.28	-.06	.36	.20	.05	.13	-.03	.09	.21	.19	.51	.39	.46	.27	-.07	.02	.48	.36
E33	.19	.40	.22	.16	-.06	.35	.16	.03	.27	.18	.12	.06	.27	.66	.54	.51	.45	-.14	-.04	.45	.48
E34	.15	.13	.14	.12	-.07	.10	.29	.14	.03	-.02	.21	-.03	.15	.45	.48	.26	.10	-.04	-.02	.36	.30
E35	.01	.10	.03	.33	.01	.11	.12	-.08	.27	.01	.21	-.02	.01	.34	.25	.30	.25	.04	-.03	.32	.36
E36	-.01	.01	.07	.14	.03	.15	.04	.02	.14	.07	-.06	.03	.04	.12	.05	.16	.06	-.08	-.02	.10	.13
E37	.00	-.02	-.08	.09	.00	.18	.07	-.04	.01	-.06	.05	.02	-.07	.13	.03	.17	.17	.03	.06	.24	.23
E38	-.05	-.04	.05	-.05	.01	.06	.03	.01	-.06	-.04	.01	.01	-.06	.03	.00	.04	-.05	-.05	-.01	.06	.02
E39	.05	.24	.13	-.03	-.01	.12	.03	.07	.19	.18	.11	.28	.06	.30	.15	.37	.21	-.10	-.03	.19	.37
E40	.23	.22	.21	.11	-.10	.19	.21	-.04	.07	.07	.34	.11	.26	.54	.50	.37	.32	-.05	.13	.49	.41
E41	.20	.44	.28	.13	-.06	.15	.20	.13	.14	.14	.31	.24	.30	.67	.65	.45	.39	-.07	-.06	.48	.49
E42	.11	.27	.24	.12	.05	.15	.08	.15	.27	.11	.15	.13	.05	.45	.33	.37	.39	-.12	-.03	.29	.44
E43	.01	.12	.11	.06	-.04	-.04	-.02	.08	.04	.11	.18	.03	-.03	.17	.14	.16	.10	-.04	-.01	.08	.19
E44	.02	-.03	.03	.01	.06	.01	-.02	.00	.13	.07	.02	.01	-.03	.13	.12	.07	.10	-.17	-.01	.05	.16
E45	.07	.07	.13	-.01	-.07	.08	.05	-.09	.06	.11	.12	.00	.06	.32	.26	.28	.20	.00	.11	.27	.32
E46	.21	.34	.22	.33	-.05	.06	.20	.14	.20	.14	.25	.08	.18	.54	.45	.44	.32	-.04	-.02	.40	.43

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R)
FOR THE GENERALIZATION SAMPLE - CS's AND RM's COMBINED (N=222)

	E47	E48	E49	E50	E51	E52	E53	E54	E55	E56	E57	E58	E59	E60	E61	E62	E63	E64	E65	E66	E67
E47		.31	.11	-.06	.02	.28	.07	.10	.03	.04	.15	.08	.08	.31	.25	.28	.18	-.03	-.02	.24	.31
E48			.23	.16	-.01	.27	.10	.11	.14	.32	.21	.14	.24	.54	.51	.36	.34	-.08	-.03	.33	.44
E49				.01	-.00	.13	.01	-.11	.17	.14	.11	.17	.14	.37	.25	.35	.27	-.03	.13	.23	.38
E50					-.05	.00	.27	.14	.11	-.07	.17	-.02	.05	.32	.28	.28	.18	.02	.07	.32	.27
E51						.06	-.02	.06	.06	.06	-.02	-.07	-.01	.02	-.03	.05	.08	.06	-.02	.03	.12
E52							.09	.01	.22	.12	.12	.13	.24	.49	.34	.47	.36	.01	-.05	.42	.45
E53								.07	.03	-.11	.30	.06	.12	.48	.47	.34	.22	.11	-.04	.60	.29
E54									-.02	.01	-.02	.06	.01	.16	.20	.11	-.05	-.06	-.14	.13	.09
E55										.11	.08	.10	.19	.43	.28	.43	.38	.05	.08	.31	.49
E56											.02	.03	.14	.20	.22	.09	.19	.02	-.02	.13	.24
E57												.04	.21	.45	.48	.26	.18	.02	-.03	.41	.34
E58													.08	.26	.14	.28	.27	-.06	.05	.23	.29
E59														.40	.34	.33	.18	-.00	.13	.28	.31
E60															.85	.78	.61	-.06	.00	.82	.83
E61																.39	.32	-.06	.05	.62	.56
E62																	.48	.10	-.00	.74	.80
E63																		.02	.03	.59	.71
E64																			.23	.24	.10
E65																				.07	.12
E66																					.76
E67																					

CORRELATIONS AMONG THE 67 VARIABLES ON THE JUSTIFICATION SECTION (19S)
FOR THE GENERALIZATION SAMPLE - CS's AND RM's COMBINED (N=222)

	J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12	J13	J14	J15	J16	J17	J18	J19	J20	J21	J22	J23
J1		.18	.37	.11	.16	.05	.16	.13	.13	.17	.30	.29	-.02	.16	.20	.10	.12	.20	.20	.05	.17	.32	.23
J2			.32	.22	.38	.01	.16	.23	.14	.34	.23	.24	.21	.07	.03	.36	.29	.22	.39	.28	.14	.30	.36
J3				.25	.33	.11	.25	.25	.46	.37	.52	.45	.30	.08	.22	.44	.33	.35	.58	.39	.27	.47	.55
J4					.31	-.05	.16	.13	.15	.09	.19	.21	.26	.05	-.01	.24	-.04	.06	.22	.30	.04	.15	.30
J5						.00	.11	.15	.21	.38	.37	.27	.13	.02	.15	.46	.21	.25	.33	.37	.19	.32	.45
J6							-.02	.04	.09	.10	.06	.08	-.04	-.01	.15	.00	.09	.04	.04	.05	.04	.12	.10
J7								-.03	.10	.14	.11	.03	.09	.09	.02	.29	.06	.10	.29	.26	.04	.24	.17
J8									-.04	.13	.08	.16	.03	.02	.04	.11	.06	.02	.05	.10	-.02	.05	.17
J9										.26	.39	.31	.18	.12	.20	.39	.23	.19	.38	.30	.27	.19	.47
J10											.45	.30	.12	-.01	.27	.25	.36	.24	.31	.35	.15	.33	.22
J11												.47	.26	.09	.28	.33	.37	.36	.53	.38	.28	.31	.41
J12													.33	.21	.21	.34	.18	.22	.37	.29	.34	.26	.49
J13														.02	.02	.25	.12	.08	.32	.31	.06	.04	.27
J14															.07	.01	.04	-.03	.13	-.05	.22	.07	.10
J15																.15	.12	.09	.15	.13	.19	.20	.13
J16																	.21	.28	.47	.37	.28	.38	.49
J17																		.16	.32	.12	.09	.22	.17
J18																			.30	.20	.11	.40	.32
J19																				.38	.32	.37	.42
J20																					.17	.20	.40
J21																						.08	.40
J22																							.31
J23																							

CORRELATIONS AMONG THE 67 VARIABLES ON THE JUSTIFICATION SECTION (19S)
FOR THE GENERALIZATION SAMPLE - CS's AND RM's COMBINED (N=222)

	J24	J25	J26	J27	J28	J29	J30	J31	J32	J33	J34	J35	J36	J37	J38	J39	J40	J41	J42	J43	J44	J45	J46
J1	.07	.34	.18	.11	.05	.19	.41	.96	.21	.40	.11	.17	.06	.11	.09	.12	.17	.35	.24	-.00	.15	.20	.10
J2	-.03	.28	.15	.34	.16	.26	.51	.15	.98	.30	.19	.32	.03	.16	.27	.12	.34	.23	.21	.21	.07	.05	.28
J3	.04	.53	.29	.37	.44	.35	.78	.36	.30	.97	.28	.31	.13	.26	.20	.42	.39	.50	.40	.35	.06	.23	.43
J4	-.02	.17	.03	.25	.10	.11	.33	.03	.21	.26	.93	.30	-.06	.14	.17	.15	.09	.16	.14	.23	-.00	-.04	.22
J5	-.03	.33	.11	.31	.13	.31	.56	.09	.35	.31	.24	.97	.01	.04	.21	.16	.38	.30	.24	.10	.01	.15	.37
J6	-.01	.20	.06	.04	.17	.09	.16	.05	.01	.10	-.04	.01	.97	-.04	.05	.12	.10	.04	.09	-.03	-.03	.11	-.00
J7	-.02	.21	-.03	.14	.14	.21	.29	.14	.16	.24	.18	.09	-.04	.95	-.02	.07	.13	.10	.03	.11	.11	.01	.30
J8	-.02	.18	.07	.27	-.04	.09	.21	.14	.20	.22	.11	.15	.09	-.04	.90	-.04	.11	.11	.13	.04	-.01	.04	.06
J9	-.04	.46	.25	.45	.30	.32	.58	.12	.12	.49	.15	.23	.08	.10	-.02	.94	.29	.40	.29	.18	.13	.21	.43
J10	.02	.40	.13	.31	.26	.30	.57	.17	.32	.35	.07	.33	.13	.09	.07	.22	.97	.43	.30	.10	-.00	.24	.22
J11	.02	.53	.18	.38	.34	.26	.73	.29	.21	.48	.20	.35	.07	.04	.06	.40	.45	.95	.42	.29	.08	.29	.30
J12	.04	.44	.30	.34	.43	.26	.62	.27	.25	.45	.21	.28	.11	-.03	.16	.33	.29	.49	.95	.38	.16	.22	.34
J13	-.02	.19	.12	.16	.21	.09	.34	-.04	.19	.28	.23	.12	-.04	.10	.04	.14	.13	.25	.33	.94	-.02	-.00	.22
J14	-.02	.10	.08	.02	.08	.07	.14	.15	.07	.09	.00	.03	.01	.08	.07	.13	-.02	.13	.20	-.02	.94	.09	.08
J15	.02	.26	.15	.13	.08	.22	.35	.22	-.00	.22	.00	.14	.14	-.01	.03	.16	.25	.29	.20	-.00	.04	.97	.14
J16	.05	.40	.16	.41	.28	.32	.62	.09	.34	.44	.19	.42	-.00	.24	.13	.37	.27	.33	.35	.28	.00	.18	.93
J17	.10	.39	.10	.31	.21	.16	.44	.14	.28	.31	-.02	.16	.13	.08	.08	.17	.38	.33	.17	.17	-.02	.14	.19
J18	-.03	.25	.07	.20	.32	.06	.44	.19	.20	.35	.06	.22	.05	.07	-.03	.11	.21	.35	.16	.10	-.03	.10	.26
J19	.01	.44	.15	.33	.36	.29	.69	.22	.38	.57	.23	.29	.04	.29	.05	.41	.33	.48	.36	.33	.14	.18	.46
J20	.06	.38	.18	.39	.29	.26	.56	.03	.25	.37	.29	.36	.04	.23	.12	.28	.35	.32	.24	.36	-.02	.15	.38
J21	-.03	.30	.17	.14	.27	.33	.41	.15	.15	.31	.04	.20	.04	.02	.02	.27	.13	.29	.35	.05	.23	.19	.23
J22	.18	.42	.14	.25	.37	.16	.57	.27	.30	.44	.14	.28	.14	.19	.06	.16	.33	.30	.23	.07	.05	.21	.39
J23	-.02	.48	.30	.47	.44	.40	.73	.18	.32	.59	.30	.47	.12	.12	.20	.44	.23	.42	.46	.31	.09	.15	.47

CORRELATIONS AMONG THE 67 VARIABLES ON THE JUSTIFICATION SECTION (19S)
FOR THE GENERALIZATION SAMPLE - CS's AND RM's COMBINED (N=222)

	J24	J25	J26	J27	J28	J29	J30	J31	J32	J33	J34	J35	J36	J37	J38	J39	J40	J41	J42	J43	J44	J45	J46
J24		.02	.22	.10	-.03	-.03	.05	.10	-.03	.02	-.02	-.03	-.02	-.02	-.01	-.04	.05	.01	.08	-.02	-.02	.05	.07
J25			.33	.42	.39	.38	.76	.32	.28	.53	.21	.34	.25	.18	.20	.45	.40	.50	.42	.22	.08	.25	.40
J26				.19	.32	.18	.36	.18	.15	.32	.11	.13	.07	-.00	.06	.30	.15	.23	.31	.10	.07	.15	.17
J27					.31	.31	.60	.11	.31	.36	.20	.31	.06	.09	.28	.39	.33	.39	.35	.20	-.02	.15	.40
J28						.24	.53	.07	.16	.45	.09	.13	.17	.14	-.06	.31	.25	.34	.43	.25	.02	.10	.32
J29							.49	.18	.25	.39	.10	.29	.10	.20	.08	.29	.31	.30	.27	.10	.08	.23	.27
J30								.38	.48	.77	.33	.53	.19	.24	.21	.55	.58	.71	.58	.37	.12	.36	.59
J31									.18	.39	.03	.10	.07	.10	.08	.13	.18	.34	.21	-.03	.15	.22	.10
J32										.28	.18	.29	.03	.16	.23	.10	.32	.21	.22	.19	.08	.01	.28
J33											.30	.30	.13	.27	.19	.46	.38	.49	.41	.33	.07	.24	.44
J34												.23	-.06	.18	.14	.16	.07	.18	.13	.22	-.03	-.03	.16
J35													.01	.03	.21	.18	.32	.29	.24	.09	.02	.14	.35
J36														-.05	.11	.11	.13	.06	.12	-.03	-.02	.11	.00
J37															-.04	.08	.09	.02	-.02	.11	.09	-.02	.25
J38																-.02	.05	.08	.15	.06	.02	.04	.09
J39																	.26	.39	.32	.15	.14	.17	.42
J40																		.44	.29	.12	-.01	.24	.25
J41																			.46	.27	.12	.31	.31
J42																				.36	.15	.21	.35
J43																					-.04	-.02	.23
J44																						.06	.07
J45																							.16
J46																							

CORRELATIONS AMONG THE 67 VARIABLES ON THE JUSTIFICATION SECTION (19S)
FOR THE GENERALIZATION SAMPLE - CS's AND RM's COMBINED (N=222)

	J47	J48	J49	J50	J51	J52	J53	J54	J55	J56	J57	J58	J59	J60	J61	J62	J63	J64	J65	J66	J67
J1	.12	.21	.16	.03	.11	.37	.21	.07	.32	.15	.05	.02	.15	.41	.38	.35	.37	-.04	.00	.36	.40
J2	.21	.18	.31	.24	.11	.27	.34	-.03	.28	.12	.30	.17	.23	.47	.30	.49	.50	.06	.00	.55	.47
J3	.29	.27	.53	.38	.26	.47	.55	.04	.53	.28	.35	.41	.38	.78	.63	.76	.67	.03	.00	.72	.69
J4	-.06	.05	.20	.28	.10	.11	.26	-.02	.18	-.00	.23	.09	.13	.30	.17	.30	.38	-.05	.00	.33	.30
J5	.17	.18	.30	.31	.15	.29	.44	-.03	.31	.07	.25	.12	.30	.51	.25	.59	.55	.16	.00	.58	.51
J6	.09	.01	.03	.08	.03	.15	.13	-.01	.17	.07	.04	.12	.10	.16	.11	.19	.12	-.03	.00	.21	.11
J7	.04	.07	.26	.21	.04	.20	.13	-.02	.19	-.02	.10	.19	.16	.26	.11	.31	.30	-.05	.00	.28	.30
J8	.04	.06	.04	.11	.04	.05	.16	-.02	.16	.01	.23	-.05	.12	.20	.16	.18	.22	-.03	.00	.22	.18
J9	.21	.19	.39	.35	.26	.21	.47	-.04	.46	.25	.47	.25	.35	.60	.55	.56	.44	.01	.00	.54	.57
J10	.33	.20	.26	.30	.08	.34	.25	.02	.35	.10	.24	.25	.28	.54	.36	.56	.56	.01	.00	.58	.49
J11	.32	.29	.48	.32	.23	.34	.43	.02	.51	.18	.37	.33	.23	.71	.55	.66	.69	.19	.00	.66	.62
J12	.14	.24	.36	.29	.31	.29	.50	.04	.44	.33	.32	.42	.25	.64	.58	.59	.49	.11	.00	.60	.59
J13	.07	.03	.28	.22	.06	.04	.26	-.02	.17	.20	.18	.24	.05	.31	.17	.33	.36	-.04	.00	.33	.31
J14	.02	.03	.10	-.06	.15	.09	.10	-.02	.11	.06	-.01	.03	.05	.15	.16	.11	.13	.02	.00	.13	.20
J15	.08	.11	.15	.16	.12	.22	.17	.02	.23	.10	.11	.04	.20	.36	.32	.33	.29	.09	.00	.33	.38
J16	.15	.26	.48	.37	.25	.35	.47	.05	.42	.23	.41	.29	.37	.62	.51	.58	.54	.02	.00	.60	.61
J17	.95	.13	.25	.12	.05	.23	.18	.10	.40	.12	.31	.17	.17	.42	.34	.39	.43	.05	.00	.39	.40
J18	.14	.90	.27	.15	.05	.45	.33	-.03	.27	.04	.21	.35	.08	.44	.33	.44	.38	.07	.00	.40	.43
J19	.25	.22	.94	.37	.28	.38	.43	.01	.47	.20	.34	.39	.31	.69	.55	.67	.59	-.02	.00	.66	.66
J20	.14	.12	.34	.93	.21	.22	.38	.06	.40	.14	.39	.28	.22	.53	.38	.53	.54	-.02	.00	.56	.51
J21	.05	.13	.25	.17	.93	.10	.39	-.03	.31	.18	.14	.26	.31	.41	.35	.38	.35	.05	.00	.41	.38
J22	.18	.36	.32	.17	.03	.95	.32	.18	.39	.12	.21	.34	.16	.55	.41	.52	.56	-.04	.00	.55	.53
J23	.13	.31	.39	.37	.38	.32	.98	-.02	.48	.29	.43	.41	.41	.74	.66	.68	.60	.01	.00	.74	.67

CORRELATIONS AMONG THE 67 VARIABLES ON THE JUSTIFICATION SECTION (19S)
FOR THE GENERALIZATION SAMPLE - CS's AND RM's COMBINED (N=222)

	J47	J48	J49	J50	J51	J52	J53	J54	J55	J56	J57	J58	J59	J60	J61	J62	J63	J64	J65	J66	J67
J24	.12	-.03	.05	.08	-.03	.24	-.02	*1.00*	.05	.18	.10	-.02	-.03	.07	.10	.07	-.02	-.01	.00	.05	.10
J25	.35	.21	.44	.38	.28	.42	.49	.02	.97	.32	.40	.38	.34	.75	.61	.71	.70	-.00	.00	.73	.69
J26	.10	.05	.17	.23	.18	.13	.34	.22	.34	.92	.16	.28	.20	.40	.41	.35	.24	-.05	.00	.36	.41
J27	.29	.16	.31	.37	.13	.22	.45	.10	.42	.20	.95	.31	.27	.59	.48	.54	.56	-.08	.00	.59	.58
J28	.21	.29	.34	.24	.24	.37	.45	-.03	.38	.38	.31	.95	.25	.54	.47	.50	.45	-.03	.00	.51	.49
J29	.13	.05	.27	.23	.28	.14	.40	-.03	.35	.20	.32	.27	.94	.50	.45	.45	.43	-.05	.00	.51	.47
J30	.37	.38	.63	.52	.36	.57	.73	.05	.75	.35	.56	.51	.48	.99	.79	.94	.90	.04	.00	.97	.92
J31	.14	.21	.18	.03	.10	.33	.18	.10	.31	.17	.06	.03	.16	.40	.43	.30	.31	-.05	.00	.32	.38
J32	.20	.17	.30	.22	.11	.26	.30	-.03	.28	.13	.27	.16	.20	.45	.29	.46	.48	.06	.00	.52	.45
J33	.26	.28	.54	.37	.29	.45	.59	.02	.53	.31	.34	.43	.44	.79	.69	.75	.63	-.02	.00	.72	.69
J34	-.05	.04	.22	.28	.12	.10	.27	-.02	.22	.06	.18	.10	.12	.31	.20	.30	.35	-.05	.00	.33	.30
J35	.13	.16	.27	.31	.17	.26	.47	-.03	.32	.09	.25	.11	.29	.49	.26	.57	.51	.10	.00	.56	.50
J36	.12	.03	.04	.07	.03	.17	.15	-.02	.21	.09	.05	.12	.11	.19	.15	.20	.14	-.04	.00	.23	.13
J37	.06	.04	.28	.21	.04	.14	.08	-.02	.16	.01	.07	.19	.17	.22	.10	.27	.23	-.05	.00	.23	.27
J38	.03	-.00	.07	.14	.10	.05	.19	-.01	.19	.00	.22	-.06	.11	.21	.16	.19	.21	-.03	.00	.23	.18
J39	.14	.11	.44	.34	.28	.18	.46	-.04	.46	.32	.42	.26	.34	.59	.58	.53	.38	.03	.00	.51	.53
J40	.35	.16	.29	.31	.07	.35	.26	.05	.36	.12	.27	.24	.29	.56	.41	.56	.55	-.06	.00	.58	.50
J41	.29	.29	.44	.29	.24	.34	.45	.01	.48	.24	.39	.32	.26	.71	.63	.64	.63	.09	.00	.66	.63
J42	.12	.17	.38	.24	.31	.26	.47	.08	.41	.36	.34	.43	.26	.61	.56	.56	.44	.01	.00	.57	.53
J43	.12	.03	.29	.25	.07	.06	.30	-.02	.21	.20	.21	.30	.07	.35	.21	.36	.39	-.04	.00	.35	.32
J44	-.03	.02	.10	-.04	.17	.07	.09	-.02	.08	.06	-.03	-.01	.06	.13	.15	.10	.09	.02	.00	.10	.18
J45	.10	.12	.18	.17	.13	.24	.18	.05	.23	.11	.12	.06	.22	.38	.36	.33	.28	.08	.00	.34	.39
J46	.15	.26	.47	.41	.21	.36	.45	.07	.42	.26	.42	.33	.32	.61	.54	.56	.47	-.01	.00	.56	.59

CORRELATIONS AMONG THE 67 VARIABLES ON THE JUSTIFICATION SECTION (19S)
FOR THE GENERALIZATION SAMPLE - CS's AND RM's COMBINED (N=222)

	J47	J48	J49	J50	J51	J52	J53	J54	J55	J56	J57	J58	J59	J60	J61	J62	J63	J64	J65	J66	J67
J47		.11	.20	.15	.01	.20	.14	.12	.38	.12	.29	.17	.13	.37	.31	.33	.34	.06	.00	.34	.36
J48			.20	.10	.07	.43	.32	-.03	.24	.02	.17	.29	.08	.39	.36	.35	.31	.09	.00	.34	.40
J49				.36	.22	.32	.42	.05	.48	.22	.33	.38	.31	.66	.59	.63	.48	-.02	.00	.61	.62
J50					.24	.19	.37	.08	.41	.18	.39	.22	.21	.53	.43	.52	.43	-.03	.00	.52	.50
J51						.04	.37	-.03	.30	.18	.12	.23	.27	.37	.33	.34	.29	.04	.00	.36	.33
J52							.33	.24	.40	.12	.19	.34	.16	.57	.49	.52	.52	-.04	.00	.56	.54
J53								-.02	.50	.33	.42	.42	.41	.76	.71	.69	.57	-.00	.00	.75	.67
J54									.05	.18	.10	-.02	-.03	.07	.10	.07	-.02	-.01	.00	.05	.10
J55										.33	.42	.36	.33	.76	.65	.70	.64	.02	.00	.71	.68
J56											.18	.36	.24	.40	.44	.34	.20	-.05	.00	.35	.37
J57												.31	.30	.57	.49	.52	.48	-.07	.00	.55	.54
J58													.27	.52	.44	.49	.42	-.02	.00	.50	.45
J59														.50	.49	.45	.37	-.05	.00	.50	.46
J60															.87	.93	.82	.00	.00	.96	.92
J61																.66	.54	-.05	.00	.76	.76
J62																	.78	.08	.00	.93	.87
J63																		-.00	.00	.86	.81
J64																			.00	.05	.05
J65																				.00	.00
J66																					.88
J67																					

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R) VS. THE JUSTIFICATION SECTION (19S) FOR THE GENERALIZATION SAMPLE - CS's AND RM's COMBINED (N=222)

	J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12	J13	J14	J15	J16	J17	J18	J19	J20	J21	J22	J23
E1	.02	.05	.02	-.05	-.01	.07	.02	-.10	-.03	.01	.03	.04	.01	.07	.04	-.04	.11	-.10	.05	.03	.03	-.04	.01
E2	-.05	.03	.10	-.05	-.08	-.01	.02	.02	.04	-.02	-.05	.01	.18	-.02	.00	-.05	.07	.00	.08	-.00	-.08	.01	.06
E3	-.03	.01	.09	-.09	.04	.08	-.00	.01	.02	.16	.06	.10	.15	-.03	.04	.07	.15	.04	.08	.05	.06	-.03	-.01
E4	-.09	-.03	.04	-.10	-.08	.12	-.08	-.08	.06	-.04	-.08	-.00	.02	-.04	-.07	-.00	.05	-.04	-.02	.00	-.10	-.06	-.03
E5	.01	-.02	.03	.01	.01	.01	.01	.05	.02	.01	-.08	.06	.07	.03	-.06	-.06	-.02	-.08	.03	.14	-.10	-.02	-.06
E6	.10	-.09	.04	.02	.02	.04	-.01	.06	-.01	-.05	.03	.02	-.07	.14	.13	-.04	.03	-.06	.01	-.04	.12	-.01	.05
E7	-.01	-.04	-.07	-.03	-.08	-.08	.03	-.08	-.05	-.08	-.10	-.06	.05	-.01	-.05	-.09	.02	-.11	-.06	-.05	-.07	.00	-.09
E8	-.06	.03	-.03	.01	-.07	.45	.02	-.03	.02	-.08	-.09	-.06	.03	-.04	-.01	-.06	-.06	-.02	-.00	.07	-.07	-.09	.00
E9	-.06	.01	-.00	-.03	.03	.02	.07	-.04	.02	-.06	-.03	.09	-.00	-.09	-.01	.06	-.05	.13	.02	.03	-.01	.01	.07
E10	-.03	-.09	.01	-.03	-.07	-.02	-.03	.05	.02	-.04	.04	.04	-.01	-.06	.08	-.07	-.04	-.04	.01	.04	.03	-.10	-.06
E11	-.07	.05	.00	-.14	.03	.08	-.09	-.00	.06	.12	.01	.04	.07	-.02	-.04	-.01	.11	.15	.03	-.02	-.05	.05	-.05
E12	.04	.00	.05	-.10	-.09	-.08	.11	.01	.04	.04	.02	.11	.02	-.01	-.05	.07	-.06	.05	.02	.03	.01	-.01	-.05
E13	-.01	-.06	.07	-.04	-.06	.05	-.05	.11	-.04	.14	.05	-.00	-.04	.10	.01	-.09	.08	.16	-.04	-.07	-.06	.12	-.02
E14	.01	-.06	-.06	-.02	-.08	-.02	-.01	-.05	-.07	-.03	-.06	-.01	-.07	-.00	-.07	-.04	-.01	-.02	-.07	-.10	-.05	-.08	-.09
E15	.04	.07	.02	-.03	.00	-.06	.01	.13	-.03	.06	-.01	.11	-.00	.03	-.03	.06	.02	.07	.02	.01	.06	.06	-.01
E16	.08	.11	.07	-.03	-.02	.03	.02	-.05	.05	.06	-.08	.02	.08	-.06	.00	.00	.12	.15	.05	.01	-.05	.01	.05
E17	-.00	.01	.03	.00	.01	.01	.00	-.07	-.01	.06	.18	.07	.23	-.08	.03	-.07	.24	.02	.06	.12	-.02	-.02	-.04
E18	-.11	.04	.02	.05	.13	.13	.13	.01	.04	.10	.06	-.02	.09	.12	-.03	.02	.08	.09	.05	.08	-.04	.08	.03
E19	-.04	-.13	-.07	-.11	.02	.09	-.03	-.06	-.06	.02	.05	-.03	-.07	.03	.11	-.10	.04	-.07	-.06	-.09	.01	-.03	-.11
E20	-.09	-.10	-.03	-.08	-.09	-.00	-.03	.09	-.04	-.08	-.11	.01	.03	-.08	-.09	-.07	.01	-.05	-.05	-.00	-.06	-.09	-.04
E21	-.08	.10	-.06	-.02	.01	-.02	-.09	-.08	.03	.09	-.03	.05	.06	.13	-.05	.02	.13	-.07	.08	.08	.04	.05	.00
E22	.00	-.03	.08	.02	-.02	.05	.01	-.01	.02	-.04	.04	.11	.20	-.07	.05	.03	.11	-.05	.13	.00	.01	.11	-.02
E23	-.09	.10	.10	-.01	.06	-.04	-.01	.06	.10	.08	-.01	.07	.12	-.08	.16	.04	.07	-.06	.05	.19	.06	-.07	.20

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R) VS. THE JUSTIFICATION SECTION (19S) FOR THE GENERALIZATION SAMPLE - CS's AND RM's COMBINED (N=222)

	J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12	J13	J14	J15	J16	J17	J18	J19	J20	J21	J22	J23
E24	.01	.08	.10	.01	.02	.05	.07	-.01	.16	.02	.01	.04	.14	.06	.00	.20	.23	.05	.12	.10	-.07	.06	.11
E25	.09	.04	.07	-.01	.04	-.02	-.04	-.03	.04	.02	-.03	.08	.10	.14	.00	-.01	-.01	.04	.06	.03	.00	.03	-.06
E26	-.09	.06	-.06	-.05	-.02	-.01	.02	-.07	-.00	.08	-.02	-.01	-.03	.12	-.10	-.01	.02	.10	.06	-.01	-.03	.08	-.05
E27	-.11	-.08	-.05	-.09	.01	-.02	-.08	-.12	.08	-.07	.07	.12	-.03	-.04	-.02	-.07	-.02	.02	.05	.04	-.01	-.02	-.03
E28	-.03	.02	.07	-.04	.03	.06	-.01	.02	-.04	-.09	-.04	.04	.08	-.07	-.08	-.03	-.02	.09	.12	.04	-.03	.04	-.00
E29	.00	.08	.05	.07	.21	-.01	-.05	.10	.08	.03	.04	-.02	.14	-.05	.07	.19	.09	-.03	.19	.04	-.08	.06	-.00
E30	-.06	.03	.08	-.10	.02	.06	-.01	-.01	.07	.07	.00	.12	.18	-.03	.03	.00	.14	.03	.11	.08	-.02	.01	.00
E31	.03	.07	.04	-.05	.03	.08	.04	-.11	-.01	.03	.10	.06	-.00	.10	-.02	-.00	.14	-.08	.09	-.01	.08	.02	.01
E32	.00	.03	.15	-.03	-.05	.02	.05	.02	.09	-.02	-.03	.06	.21	-.01	-.06	-.01	.12	.04	.13	-.05	-.05	.07	.07
E33	.01	.04	.10	-.08	.08	.11	-.00	-.04	.04	.14	.08	.13	.16	-.01	.07	.07	.16	.06	.11	.07	.07	.02	.07
E34	-.07	-.02	.06	-.10	-.07	.14	-.07	-.07	.09	-.04	-.05	.02	.03	-.02	-.07	.02	.09	-.04	.00	.00	-.08	-.05	.01
E35	.03	-.01	.05	-.01	-.01	.05	-.01	.07	.03	.03	-.07	.07	.05	-.02	-.05	-.05	.00	-.09	.04	.13	-.09	-.02	-.04
E36	.11	-.10	.03	.02	.02	.05	-.02	.05	-.02	-.07	.03	.01	-.07	.14	.10	-.05	.03	-.05	-.02	-.05	.08	-.01	.05
E37	.02	-.06	-.08	.02	-.06	-.07	.05	-.07	-.06	-.09	-.09	-.05	.05	.00	-.07	-.08	-.11	-.11	-.07	-.06	-.06	-.01	-.10
E38	-.06	.03	-.03	.01	-.07	.45	.02	-.03	.02	-.08	-.09	-.06	.03	-.04	-.01	-.06	-.06	-.02	-.00	-.07	-.07	-.09	.00
E39	-.01	.01	.05	.02	.08	.05	.06	-.01	.03	-.04	-.02	.10	.00	-.09	-.08	.08	-.06	.17	.05	.03	.02	.05	.10
E40	-.01	-.08	.05	-.02	-.05	-.00	-.03	.04	.06	-.05	.08	.07	.01	-.07	.12	-.02	.02	.01	.05	.06	.03	-.06	-.02
E41	-.06	.05	.01	-.12	.02	.09	-.07	.02	.05	.08	.01	.08	.07	.01	-.08	-.01	.11	.15	.06	-.02	-.06	.05	-.02
E42	.04	.01	.03	-.09	-.08	-.06	.06	.03	.06	.04	.04	.16	.04	.05	-.07	.07	-.01	.08	.03	.02	.00	-.03	-.03
E43	-.03	-.05	.00	-.04	-.06	.01	-.04	.04	-.01	.10	-.00	-.03	-.03	.17	-.03	-.08	.02	.09	-.04	-.06	-.05	.06	-.03
E44	.05	-.08	.03	.01	-.04	-.00	.02	-.04	-.14	-.07	-.00	.05	-.05	.02	-.12	.02	.03	.03	-.01	-.07	-.01	-.08	-.02
E45	.04	.02	.01	-.04	-.02	-.04	-.01	.14	-.04	.01	-.01	.10	-.01	.00	-.04	.03	.00	.11	-.00	-.01	.03	.02	.00
E46	.03	.10	.04	-.02	-.01	.06	.02	-.06	.02	.02	-.04	.01	.12	-.05	-.05	-.01	.13	.18	.08	.01	-.04	.01	.07

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R) VS. THE JUSTIFICATION SECTION (19S) FOR THE GENERALIZATION SAMPLE - CS's AND RM's COMBINED (N=222)

	J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12	J13	J14	J15	J16	J17	J18	J19	J20	J21	J22	J23
E47	-.03	.03	.03	.03	-.01	.02	-.02	-.07	.02	.03	.22	.11	.27	-.08	.01	-.05	.19	.04	.10	.12	-.01	-.03	-.01
E48	-.11	.03	.02	.08	.13	.09	.11	.01	.07	.12	.10	.01	.10	-.11	-.03	.02	.06	.09	.08	.12	-.03	.06	.05
E49	-.04	-.10	.06	-.09	-.01	.11	-.01	-.05	-.04	-.00	.02	-.04	-.07	.04	.04	-.08	-.02	-.03	-.06	-.13	-.04	-.01	-.11
E50	-.08	-.11	-.03	-.06	-.07	-.01	-.01	.08	-.07	-.08	-.12	.00	.03	-.08	-.10	-.06	.01	-.06	-.04	-.02	-.07	.11	-.05
E51	-.09	.11	.06	.02	.01	-.03	-.09	-.07	.02	.11	-.03	.05	.09	.14	-.04	.02	.16	-.06	.08	.10	.03	.06	-.01
E52	.04	-.01	.11	.02	-.02	.06	.02	-.01	.05	-.04	.08	.14	.22	-.05	.04	.04	.12	-.04	.15	.01	.04	.12	.02
E53	-.04	.11	.14	.02	.10	-.03	.02	.07	.14	.10	.03	.12	.12	-.08	.18	.05	.09	-.00	.07	.20	.03	-.03	.24
E54	.02	.08	.11	.01	.03	.06	.08	-.00	.17	.03	.02	.05	.14	.07	.02	.21	.20	.06	.13	.09	-.07	.07	.12
E55	.13	.03	.08	-.00	.05	.02	-.07	-.01	.08	.01	-.03	.11	.09	.13	.02	-.01	-.02	.04	.09	.01	.02	.05	-.01
E56	-.08	.06	-.05	-.02	.02	-.00	.03	-.06	-.02	.13	.00	-.03	-.03	.03	-.10	.01	.01	.09	.10	.04	-.03	.12	-.02
E57	-.11	-.05	-.03	-.06	.02	-.00	-.09	-.10	.11	-.05	.10	.11	-.01	-.05	-.02	-.04	.03	.01	.05	.03	-.02	-.01	-.04
E58	-.00	.03	.09	-.04	.03	.10	.05	.02	-.00	-.07	-.05	.04	.06	-.07	-.09	-.01	-.04	.10	.15	.06	.00	.06	.01
E59	.01	.09	.10	.07	.22	.00	-.04	.09	.13	.05	.08	.02	.21	-.03	.09	.24	.10	-.05	.24	.08	-.06	.09	.04
E60	-.02	.05	.12	-.06	.05	.10	.00	.00	.12	.05	.05	.17	.20	-.02	.02	.04	.15	.07	.16	.09	-.02	.05	.08
E61	.03	.02	.11	-.03	.06	.11	-.00	.00	.17	.01	.10	.20	.15	-.01	.01	.05	.16	.08	.17	.09	.00	.05	.18
E62	-.05	.07	.09	-.04	.03	.04	-.02	-.00	.04	.08	-.02	.06	.21	-.02	.01	.02	.12	.02	.11	.06	-.05	.03	-.04
E63	-.08	-.00	.04	-.14	-.02	.01	.03	-.01	-.02	.07	-.02	.08	.06	-.01	.04	-.02	.04	.02	.04	.05	.04	-.02	-.08
E64	-.12	-.06	-.14	-.08	-.07	-.07	-.10	-.03	-.06	-.01	-.10	-.13	-.01	-.06	.04	-.13	.04	-.12	-.14	-.01	-.08	-.12	-.12
E65	-.03	-.03	-.04	-.02	-.03	-.01	-.02	-.02	-.04	-.03	-.05	-.04	-.02	-.02	-.05	-.04	.10	-.03	-.05	.06	-.03	-.04	-.06
E66	-.10	-.08	-.08	-.07	.00	.04	-.01	.03	.10	.05	-.01	.12	.16	-.00	.05	.03	.16	-.04	.10	.10	-.02	-.02	.06
E67	-.06	.01	.04	-.10	-.02	.06	.02	-.03	.02	.05	-.02	.10	.13	-.02	-.05	-.01	.12	-.04	.07	.04	-.06	-.00	-.05

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R) VS. THE JUSTIFICATION SECTION (19S) FOR THE GENERALIZATION SAMPLE - CS's AND RM's COMBINED (N=222)

	J24	J25	J26	J27	J28	J29	J30	J31	J32	J33	J34	J35	J36	J37	J38	J39	J40	J41	J42	J43	J44	J45	J46
E1	.08	.06	.00	-.02	-.03	.07	.03	.03	.02	-.00	-.00	-.05	.09	.02	-.10	.00	.02	-.01	.05	.02	.06	.07	-.07
E2	-.03	.06	.04	.05	.01	.01	.03	-.05	-.01	.09	-.04	-.07	-.02	.04	-.01	.02	-.03	-.03	.01	.18	-.02	.01	-.03
E3	-.05	.07	.08	-.02	.03	-.01	.08	-.02	-.00	.09	-.07	.05	.09	-.00	.01	.01	.16	.07	.08	.17	-.03	.04	.03
E4	-.02	.03	.10	.03	.08	-.02	-.03	-.07	-.01	.04	-.10	-.05	.13	-.07	-.07	.06	-.03	-.07	-.01	.06	-.00	-.06	.02
E5	-.03	.06	-.00	-.06	-.06	.03	-.01	.01	-.02	.02	-.02	.01	.01	.01	.01	.04	.01	-.07	.06	.09	.04	-.07	-.03
E6	-.02	.06	.09	.01	-.03	.05	.04	.08	-.09	.03	.06	.04	.03	-.04	.04	-.03	-.03	.06	-.01	-.06	.11	.11	-.03
E7	-.03	-.08	-.03	-.02	-.09	-.05	-.10	-.02	-.06	-.10	-.06	-.08	-.08	.01	-.08	-.07	-.08	-.11	-.05	.05	-.04	-.06	-.08
E8	-.01	-.03	-.07	-.04	.02	.09	-.04	-.06	.06	-.02	.02	-.07	.41	.03	-.03	.01	-.08	-.10	-.07	.04	-.04	-.04	-.07
E9	-.03	.02	-.01	.14	.10	-.04	.03	-.07	-.03	.00	-.06	.03	.02	.08	-.03	.03	-.05	-.06	.11	.00	-.08	-.01	.08
E10	-.03	-.01	-.05	-.02	-.09	-.06	-.03	-.04	-.08	.01	-.01	-.05	-.02	-.05	.02	.03	-.05	.04	.04	.01	-.05	.08	-.04
E11	.01	.12	.18	.02	.05	-.08	.04	-.05	.05	-.00	-.13	.06	.12	-.09	-.01	.05	.12	-.00	.00	.05	-.02	-.03	-.02
E12	-.03	.08	-.01	.07	.08	-.00	.03	.02	.02	.04	-.10	-.08	-.08	.08	-.01	.01	.04	.03	.08	.01	-.01	-.03	.07
E13	-.01	.14	.07	.02	.03	-.01	.05	.01	-.06	.06	-.04	-.06	.09	-.04	.05	-.01	.14	.05	-.00	-.04	.11	.00	-.08
E14	-.02	-.09	-.00	-.04	-.02	-.07	-.10	-.01	-.07	-.04	.02	-.07	-.00	-.00	-.05	-.08	-.06	-.06	-.02	-.07	.00	-.06	-.08
E15	-.03	.18	.05	.05	.04	-.02	.06	.04	.06	.00	-.02	-.00	-.06	-.03	.14	-.05	.04	.00	.05	.02	.00	-.01	.04
E16	-.03	-.01	-.01	.10	.02	.02	.05	.12	.08	.08	-.02	-.03	.05	.06	-.06	.01	.06	-.10	-.03	.11	-.08	.02	-.02
E17	-.02	.03	.02	.09	-.04	.02	.07	-.00	-.00	.02	.02	-.00	.01	-.00	-.07	-.03	.04	.17	.05	.27	-.07	.01	-.06
E18	-.03	.05	.09	.14	.06	.02	.08	-.13	.05	.01	.05	.14	.11	.12	.00	.04	.10	.05	-.04	.08	-.00	-.07	-.01
E19	-.04	.00	.01	-.11	.04	-.05	-.05	-.04	-.13	-.08	-.10	.03	.07	-.04	-.08	-.05	.00	.03	-.02	-.06	.02	.11	-.11
E20	-.02	-.02	-.02	.01	-.03	-.04	-.08	-.09	-.10	-.04	-.07	-.06	.01	-.04	.03	-.04	-.07	-.11	-.01	.03	-.08	-.09	-.05
E21	-.02	-.05	-.01	-.05	.00	.03	.01	-.08	.12	-.04	-.06	-.04	-.02	-.08	-.08	.06	.11	-.02	.05	.06	.11	-.04	.06
E22	.09	.14	.13	.05	.08	.03	.08	-.01	-.03	.06	.02	.01	.03	.01	-.02	-.01	-.02	.07	.11	.21	-.09	.03	.02
E23	.02	.10	.16	.17	.06	.14	.13	-.08	.05	.12	-.01	.08	-.02	-.01	.07	.06	.09	-.01	.09	.10	-.10	.17	.06

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R) VS. THE JUSTIFICATION SECTION (19S) FOR THE GENERALIZATION SAMPLE - CS's AND RM's COMBINED (N=222)

	J24	J25	J26	J27	J28	J29	J30	J31	J32	J33	J34	J35	J36	J37	J38	J39	J40	J41	J42	J43	J44	J45	J46
E24	-.03	.10	.11	.14	-.01	-.02	.12	.01	.10	.10	.02	.02	.05	.07	.04	.12	.04	.03	.03	.15	.06	.00	.21
E25	.00	.05	-.02	.03	.07	.01	.04	.10	.02	.07	-.01	.05	-.01	-.01	-.03	.01	.02	-.06	.01	.10	.10	.02	-.01
E26	-.02	-.04	.05	-.02	.03	-.02	-.01	-.10	.05	-.06	-.01	-.03	-.01	.03	-.07	.01	.07	-.03	-.05	-.02	.08	-.09	-.04
E27	-.04	.04	.06	.02	.05	-.12	-.01	-.11	-.07	-.05	-.07	.05	-.02	-.08	-.11	.13	-.06	.05	.12	-.02	-.02	-.03	-.04
E28	.11	.02	.20	-.07	.04	.00	.01	-.01	.01	.04	-.06	.02	.07	.02	.02	-.01	-.09	-.06	.05	.08	-.08	-.07	-.02
E29	.15	.03	.03	.05	-.04	-.02	.09	.03	.08	.05	.03	.21	-.02	-.05	.08	.08	.05	.03	-.04	.12	-.02	.08	.15
E30	-.00	.13	.14	.08	.07	.00	.08	-.06	.01	.07	-.08	.04	.07	-.02	-.03	.05	.07	-.01	.08	.19	-.05	.03	-.00
E31	.13	.10	.02	-.02	-.01	.09	.06	.05	.07	.02	-.02	-.02	.09	.03	-.11	.04	.05	.06	.08	.01	.09	.01	-.04
E32	-.03	.12	.07	.07	.04	.04	.08	-.00	.03	.14	-.02	-.03	.01	.06	-.00	.06	-.03	-.01	.07	.23	-.02	-.08	-.01
E33	-.04	.12	.10	.02	.07	.01	.13	.03	.03	.11	-.06	.09	.12	-.01	.07	.05	.13	.09	.11	.18	-.01	.07	.04
E34	-.02	.07	.14	.06	.10	-.01	.00	-.05	-.00	.06	-.10	-.05	.16	-.06	-.07	.10	-.03	-.04	.02	.07	.03	-.05	.04
E35	-.03	.10	.01	-.04	-.06	.09	.01	.03	-.01	.04	-.03	-.01	.05	.00	.02	.05	.03	-.07	.07	.08	.04	-.05	-.02
E36	-.02	.07	.10	-.01	-.03	.05	.03	.09	-.10	.02	.05	.03	.05	-.04	.04	-.04	-.06	.06	-.02	-.07	.10	.08	-.04
E37	-.02	-.11	-.02	-.05	-.07	-.08	-.11	-.01	-.06	-.10	-.03	-.05	-.07	.00	-.07	-.06	-.09	-.10	-.03	.01	-.03	-.09	-.07
E38	-.01	-.03	-.07	-.04	.02	.09	-.04	-.06	.06	-.02	.02	-.07	.41	.03	-.03	.01	-.08	-.10	-.07	.04	-.04	-.04	-.07
E39	-.03	.04	.03	.17	.12	-.02	.06	-.01	-.00	.05	-.02	.07	.05	.06	.01	.04	-.02	-.05	.13	.01	-.08	-.08	.08
E40	-.03	.04	-.01	.04	-.03	-.03	.03	-.02	-.07	.05	-.00	-.03	-.00	-.05	.03	.07	-.06	.08	.06	.03	-.06	.12	.01
E41	.02	.11	.19	.04	.09	-.07	.05	-.04	.06	.01	-.11	.03	.11	-.07	.01	.07	.09	.01	.05	.07	.04	-.07	-.01
E42	-.03	.11	-.02	.09	.09	-.00	.05	.03	.03	.03	-.09	-.07	-.06	.04	.00	.02	.03	.05	.12	.04	.03	-.05	.05
E43	-.01	.12	.01	-.01	-.00	-.03	.01	-.02	-.05	-.00	-.04	-.06	.04	-.04	.02	.03	.10	-.01	-.03	-.03	.19	-.04	-.07
E44	-.01	-.04	-.05	-.09	.01	-.03	-.06	.03	-.07	-.01	.06	-.04	.02	.03	-.04	-.13	-.08	.01	.04	-.05	.03	-.09	-.03
E45	-.02	.17	.06	.08	.06	-.03	.04	.05	.01	.00	-.03	-.02	-.05	-.04	.14	-.05	-.02	.00	.05	.01	-.03	-.02	.01
E46	-.02	.03	-.00	.07	.04	.02	.05	.06	.09	.05	-.01	-.02	.08	.05	-.06	-.00	.03	-.06	-.03	.14	-.06	-.04	-.03

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R) VS. THE JUSTIFICATION SECTION (19S) FOR THE GENERALIZATION SAMPLE - CS's AND RM's COMBINED (N=222)

	J24	J25	J26	J27	J28	J29	J30	J31	J32	J33	J34	J35	J36	J37	J38	J39	J40	J41	J42	J43	J44	J45	J46
E47	-.02	.06	.20	.11	-.01	-.01	.09	-.03	.02	.02	.05	-.01	.03	-.02	-.07	.01	.02	.20	.09	.30	-.07	-.01	-.03
E48	-.03	.08	.11	.16	.05	.04	.11	-.13	.03	.01	.10	.14	.08	.10	-.00	.07	.12	.09	-.01	.09	-.11	-.06	-.01
E49	-.03	.03	.06	-.10	.06	-.06	-.06	-.04	-.10	-.06	-.08	.01	.09	-.02	-.07	-.02	-.03	.01	-.02	-.08	.03	.04	-.08
E50	-.02	-.02	-.04	-.01	-.05	-.01	-.09	-.07	-.11	-.04	-.05	-.06	.00	-.02	.02	-.07	-.08	-.12	-.02	.02	-.07	-.09	-.05
E51	-.02	-.06	-.04	-.06	.01	.03	.01	-.09	.12	-.05	-.03	-.04	-.03	-.08	-.07	.05	.12	-.02	.05	.08	.11	-.04	.07
E52	.05	.17	.1.	.09	.11	.06	.12	.02	-.01	.09	.03	-.00	.05	.02	-.01	.03	-.01	.11	.14	.25	-.08	.02	.02
E53	.06	.15	.15	.19	.10	.18	.18	-.04	.07	.17	.02	.11	-.01	.01	.08	.10	.11	.04	.12	.12	-.10	.19	.08
E54	-.03	.11	.12	.15	-.00	-.01	.14	.02	.11	.12	.03	.03	.05	.08	.04	.13	.05	.04	.04	.16	.06	.02	.22
E55	.01	.08	.00	.04	.06	.02	.06	.15	.03	.09	-.02	.06	.04	-.05	-.01	.06	.01	-.05	.05	.09	.10	.04	.00
E56	-.02	-.04	.05	-.00	.03	-.02	.02	-.09	.06	-.04	.04	.00	-.00	.04	-.06	-.01	.12	-.01	-.05	-.02	.01	-.08	-.02
E57	-.03	.06	.06	.03	.08	-.13	.01	-.11	-.04	-.04	-.05	.03	-.00	-.08	-.10	.15	-.04	.06	.11	.01	-.02	-.03	-.02
E58	.13	.07	.25	-.04	.07	.06	.05	.01	.02	.07	-.05	.03	.12	.09	.03	.04	-.07	-.08	.06	.05	-.08	-.09	.01
E59	.21	.06	.06	.08	-.03	-.01	.14	.03	.09	.0	.03	.23	-.01	-.04	.07	.13	.07	.07	.01	.18	.01	.10	.20
E60	.02	.19	.17	.13	.12	.04	.15	-.01	.04	.12	-.04	.07	.11	-.00	-.02	.11	.06	.05	.14	.21	-.02	.02	.04
E61	.05	.23	.19	.13	.14	.03	.18	.05	.03	.13	-.01	.08	.13	-.01	-.01	.20	.02	.11	.18	.18	.01	.02	.06
E62	-.00	.08	.10	.12	.05	-.04	.07	-.06	.05	.08	-.05	.03	.04	-.02	.01	-.01	.08	-.03	.05	.21	-.04	.01	.02
E63	-.04	.05	.07	-.05	.02	.03	.01	-.07	-.03	.02	-.11	-.00	.02	.03	-.07	-.04	.07	-.04	.03	.05	-.05	.04	-.03
E64	-.02	-.14	-.04	-.06	-.12	-.14	-.15	-.12	-.11	-.14	-.08	-.06	-.07	-.09	-.01	-.08	-.01	-.11	-.13	.00	-.06	.05	-.13
E65	-.01	-.05	-.03	-.05	-.03	-.03	-.06	-.03	-.03	-.04	-.02	-.03	-.02	-.02	-.01	-.04	-.03	-.05	-.04	-.02	-.02	-.05	-.04
E66	.01	.12	.14	.15	.03	.07	.09	-.10	.05	.08	-.06	.02	.05	-.01	.02	.07	.06	-.01	.12	.16	-.04	.05	.05
E67	.02	.10	.10	.04	.02	-.03	.03	-.06	-.00	.02	-.08	-.03	.07	.01	-.04	.01	.05	-.04	.08	.16	-.04	-.05	-.01

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R) VS. THE JUSTIFICATION SECTION (19S) FOR THE GENERALIZATION SAMPLE - CS's AND RM's COMBINED (N=222)

	J47	J48	J49	J50	J51	J52	J53	J54	J55	J56	J57	J58	J59	J60	J61	J62	J63	J64	J65	J66	J67
E1	.10	-.10	.04	.02	.02	-.07	.03	.08	.06	.01	-.01	-.02	.04	.02	.02	.02	.02	.14	.00	.03	.04
E2	.06	-.03	.10	.02	-.07	.00	.06	-.03	.05	.08	.05	.01	.06	.04	.03	.04	.01	.00	.00	.03	.03
E3	.15	-.01	.06	.05	.03	-.02	.02	-.05	.07	.09	.00	.04	.04	.08	.06	.09	.06	-.05	.00	.06	.07
E4	.10	-.02	.02	.04	-.09	-.07	.02	-.02	.05	.17	.04	.05	.01	-.00	.06	-.02	-.08	-.05	.00	-.02	-.04
E5	-.02	-.12	.05	.13	-.08	-.04	-.08	-.03	.04	-.01	-.04	-.05	.06	-.02	-.03	.01	-.01	.01	.00	-.03	-.01
E6	.04	-.06	-.01	.00	.09	.01	.07	-.02	.04	.08	.02	-.05	.05	.04	.04	.04	.02	-.04	.00	.03	.04
E7	.05	-.11	-.07	-.04	-.06	-.04	-.09	-.03	-.07	-.03	-.03	-.09	-.04	-.11	-.13	-.10	-.05	-.06	.00	-.12	-.07
E8	-.06	-.04	-.00	-.07	-.06	-.08	.01	-.01	-.04	-.06	-.04	.03	.09	-.04	-.06	-.02	-.04	-.02	.00	-.01	-.05
E9	-.06	.13	.03	-.01	-.00	-.02	.02	-.03	-.02	.01	.15	.12	-.02	.02	-.01	.02	.05	.02	.00	-.01	.02
E10	-.02	-.06	.07	.09	.02	-.10	-.02	-.03	.01	-.05	.00	-.11	-.08	-.02	.03	-.04	-.05	-.07	.00	-.04	-.09
E11	.14	.14	.03	-.00	-.07	.04	.00	.01	.10	.14	.00	.02	-.06	.04	.04	.02	.07	-.09	.00	.03	.05
E12	-.03	.06	.06	.04	-.02	-.02	-.07	-.03	.08	-.01	.06	.10	.02	.03	.01	.02	.04	-.04	.00	-.01	.06
E13	.10	.11	-.04	-.07	-.06	.13	-.01	-.01	.10	.02	.04	-.00	-.01	.05	.04	.03	.07	-.02	.00	.02	.02
E14	.00	.04	-.03	-.11	-.04	-.09	-.10	-.02	-.10	.01	-.05	-.01	-.04	-.10	-.04	-.13	-.07	.01	.00	-.10	-.09
E15	.04	.09	-.00	.03	.05	-.01	.01	-.03	.18	.01	.05	.04	-.05	.05	.02	.02	.11	-.06	.00	.05	.06
E16	.11	.13	.08	.03	-.05	-.01	.07	-.03	-.00	-.03	.09	.02	.05	.05	.10	.00	.05	.00	.00	.05	.06
E17	.21	-.02	.01	.11	-.02	-.04	-.03	-.02	.02	.04	.11	-.04	-.03	.05	-.02	.07	.11	-.05	.00	.04	.08
E18	.05	.05	.08	.06	-.05	.03	.06	-.03	.02	.08	.12	.05	-.00	.06	-.02	.10	.11	-.03	.00	.08	.09
E19	.07	-.08	-.03	-.10	-.03	-.05	-.09	-.04	-.04	-.01	-.13	.04	-.05	-.07	-.07	-.08	-.00	.00	.00	-.06	-.08
E20	.02	-.05	-.02	.04	-.07	-.08	-.20	-.02	-.01	-.01	.03	-.03	.00	-.07	-.03	-.09	-.09	-.05	.00	-.08	-.07
E21	.09	-.04	.04	.07	.00	.07	-.01	-.02	-.05	.02	-.05	-.00	.06	.01	.04	-.02	.02	-.02	.00	-.01	-.00
E22	.09	-.03	.13	.02	.04	.11	-.01	.09	.14	.18	.06	.06	.03	.09	.07	.09	.07	-.08	.00	.06	.10
E23	.08	-.06	.08	.20	.06	-.09	.20	.02	.12	.16	.16	.04	.12	.14	.13	.13	.08	.01	.00	.14	.09

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R) VS. THE JUSTIFICATION SECTION (19S) FOR THE GENERALIZATION SAMPLE - CS's AND RM's COMBINED (N=222)

	J47	J48	J49	J50	J51	J52	J53	J54	J55	J56	J57	J58	J59	J60	J61	J62	J63	J64	J65	J66	J67
E24	.22	.04	.14	.14	-.07	.08	.11	-.03	.11	.13	.15	-.04	.03	.14	.12	.16	.05	-.03	.00	.10	.15
E25	.03	.03	.06	-.00	-.00	.03	-.07	.00	.07	-.02	.02	.09	.01	.03	-.02	.05	.05	-.07	.00	.00	.06
E26	.02	.09	.07	-.02	-.06	.06	-.03	-.02	-.03	.02	-.01	.04	.00	-.01	-.01	-.02	-.00	-.05	.00	.00	-.02
E27	-.03	.03	.12	.06	-.02	-.04	.01	-.04	.05	.07	.06	.03	-.12	.01	.03	.00	-.04	.04	.00	-.02	-.02
E28	-.00	.03	.14	.04	-.01	.04	-.00	.11	.02	.20	-.07	.06	.07	.02	-.04	.08	-.02	-.04	.00	.00	.04
E29	.10	-.04	.22	.11	-.10	.07	.03	.15	.04	.05	.05	-.07	.01	.10	.10	.09	.05	-.05	.00	.10	.09
E30	.16	.01	.14	.10	-.04	-.02	.03	-.00	.12	.15	.09	.05	.03	.08	.06	.08	.08	-.07	.00	.06	.08
E31	.11	-.09	.06	-.02	.07	-.02	.02	.13	.10	.02	-.01	-.00	.05	.05	.03	.06	.07	.11	.00	.06	.08
E32	.10	.01	.15	-.02	-.04	.06	.07	-.03	.10	.11	.08	.03	.09	.08	.06	.10	.06	-.08	.00	.07	.09
E33	.16	.03	.11	.08	.03	.02	.10	-.04	.11	.12	.04	.06	.03	.14	.11	.15	.08	-.04	.00	.11	.13
E34	.13	-.04	.05	.04	-.07	-.06	.06	-.02	.09	.23	.07	.07	.02	.04	.11	.01	-.07	-.05	.00	.01	-.00
E35	.00	-.12	.06	.13	-.07	-.03	-.05	-.03	.08	.01	-.01	-.04	.13	.01	.00	.03	-.01	.00	.00	.00	.01
E36	.03	-.04	-.03	-.01	.07	.00	.07	-.02	.04	.09	.00	-.05	.05	.03	.03	.03	.01	-.04	.00	.02	.03
E37	-.08	-.11	-.06	-.07	-.06	-.05	-.10	-.02	-.10	-.02	-.05	-.08	-.07	-.12	-.13	-.11	-.07	-.05	.00	-.12	-.09
E38	-.06	-.04	-.00	-.07	-.06	-.08	.01	-.01	-.04	-.06	-.04	.03	.09	-.04	-.06	-.02	-.04	-.02	.00	-.01	-.05
E39	-.06	.17	.07	-.00	.03	.02	.06	-.03	.01	.04	.18	.14	.01	.05	.01	.06	.08	-.03	.00	.03	.06
E40	.06	-.00	.12	.12	.02	-.06	.02	-.03	.06	-.01	.06	-.06	-.04	.05	.10	.01	-.01	-.06	.00	.01	-.01
E41	.12	.14	.08	.03	-.06	.04	.04	.02	.11	.19	.04	.05	-.05	.07	.09	.05	.02	-.08	.00	.04	.07
E42	.02	.10	.08	.03	-.02	-.03	-.04	-.03	.12	-.03	.09	.10	.02	.05	.05	.03	.05	-.02	.00	.02	.07
E43	.03	.05	-.04	-.06	-.05	.07	-.03	-.01	.09	-.01	.01	-.02	-.03	.00	-.01	.01	.02	-.02	.00	-.02	-.01
E44	.04	.09	.03	-.08	-.00	-.08	-.03	-.01	-.04	-.06	-.05	.03	-.00	-.04	.04	-.10	-.06	.02	.00	-.06	-.05
E45	.04	.13	-.00	.01	.02	-.04	.02	-.02	.18	.04	.09	.06	-.06	.04	.04	.01	.08	-.05	.00	.04	.05
E46	.14	.14	.11	.03	-.05	-.00	.09	-.02	.03	-.03	.09	.04	.04	.06	.10	.01	.04	-.01	.00	.05	.06

CORRELATIONS AMONG THE 67 VARIABLES ON THE EVALUATION SECTION (19R) VS. THE JUSTIFICATION SECTION (19S) FOR THE GENERALIZATION SAMPLE - CS's AND RM's COMBINED (N=222)

	J47	J48	J49	J50	J51	J52	J53	J54	J55	J56	J57	J58	J59	J60	J61	J62	J63	J64	J65	J66	J67
E47	.16	-.00	.05	.12	.01	-.05	.00	-.02	.06	.05	.14	-.01	-.05	.07	-.00	.10	.10	-.05	.00	.05	.08
E48	.04	.04	.11	.10	-.04	.02	.08	-.03	.05	.09	.15	.03	.02	.09	.01	.12	.13	-.04	.00	.10	.12
E49	.01	-.05	-.01	-.12	-.07	-.04	-.09	-.03	-.02	.05	-.13	.06	-.06	-.06	-.06	-.07	-.02	-.02	.00	-.06	-.09
E50	.01	-.07	-.02	.01	-.08	-.10	-.03	-.02	-.02	-.03	.01	-.05	.02	-.09	-.04	-.10	-.08	-.05	.00	-.09	-.08
E51	.12	-.02	.04	.08	-.00	.08	-.02	-.02	-.06	-.01	-.05	.01	.06	.01	.03	-.02	.03	.00	.00	-.01	.00
E52	.10	-.02	.14	.01	.07	.13	.03	.05	.17	.19	.10	.10	.05	.12	.11	.11	.10	-.08	.00	.09	.12
E53	.10	-.00	.12	.22	.03	-.04	.26	.06	.16	.15	.18	.07	.15	.19	.19	.18	.11	-.00	.00	.19	.15
E54	.17	.05	.15	.11	-.06	.08	.12	-.03	.12	.13	.16	-.03	.04	.15	.13	.17	.07	-.03	.00	.12	.17
E55	-.01	.03	.10	-.00	.02	.07	-.02	.01	.09	.01	.05	.07	.03	.06	.05	.07	.05	-.04	.00	.03	.10
E56	.00	.06	.10	.01	-.05	.11	-.00	-.02	-.04	.03	.01	.05	.01	.01	.00	.01	.03	-.04	.00	.04	-.02
E57	.02	.02	.11	.06	-.02	-.03	-.01	-.03	.06	.08	.07	.05	-.12	.02	.03	.03	-.04	.09	.00	-.00	-.02
E58	-.02	.04	.16	.06	.03	.06	.01	.13	.06	.25	-.05	.10	.13	.05	-.01	.11	.00	-.04	.00	.04	.07
E59	.11	-.04	.28	.16	-.08	.10	.07	.21	.08	.10	.08	-.06	.01	.15	.15	.15	.08	-.06	.00	.15	.15
E60	.16	.05	.21	.12	-.02	.03	.11	.02	.19	.20	.15	.09	.06	.16	.15	.16	.10	-.07	.00	.13	.15
E61	.16	.09	.24	.14	.01	.04	.23	.05	.24	.23	.16	.09	.09	.21	.26	.18	.07	-.01	.00	.17	.19
E62	.13	-.03	.13	.06	-.07	.01	-.03	-.00	.08	.12	.11	.05	-.02	.06	.00	.08	.09	-.09	.00	.05	.05
E63	.06	.02	.02	.05	.01	-.04	-.07	-.04	.04	.04	-.03	.01	.06	-.00	-.04	.00	.06	-.08	.00	-.02	.02
E64	.06	-.11	-.15	-.01	-.08	-.12	-.11	-.02	-.15	-.04	-.10	-.11	-.13	-.16	-.13	-.17	-.11	.05	.00	-.16	-.18
E65	.19	-.03	-.05	.13	-.03	-.04	-.05	-.01	-.05	-.03	-.04	-.02	-.03	-.05	-.02	-.07	-.06	-.01	.00	-.05	-.06
E66	.17	-.06	.14	.13	-.03	-.05	.08	.01	.12	.15	.16	.01	.09	.10	.10	.09	.07	-.06	.00	.10	.08
E67	.14	-.06	.09	.04	-.07	-.04	-.05	.02	.09	.12	.05	.03	.00	.02	-.02	.03	.06	-.08	.00	.01	.01

APPENDIX D

MANN-WHITNEY U TESTS WITH ASSOCIATED *z* VALUES* AND *t* TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES

CROSS VALIDATION SAMPLE

EVALUATION SECTION

LOWER VS. UPPER	222
LOWER VS. MIDDLE	225
MIDDLE VS. UPPER	228

JUSTIFICATION SECTION

LOWER VS. UPPER	231
LOWER VS. MIDDLE	234
MIDDLE VS. UPPER	237

GENERALIZATION SAMPLE

EVALUATION SECTION

LOWER VS. UPPER	240
LOWER VS. MIDDLE	243
MIDDLE VS. UPPER	246

JUSTIFICATION SECTION

LOWER VS. UPPER	249
LOWER VS. MIDDLE	252
MIDDLE VS. UPPER	255

* The convention that was followed in the Mann-Whitney U tests was to enter data into the computer program first for the lower criterion group in the comparison. For those *z* values that achieved statistical significance, the direction of the difference is that the higher criterion group evidenced a greater frequency or greater weighted frequency of the variable.

MANN-WHITNEY U TESTS WITH ASSOCIATED z VALUES AND t TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. UPPER CRITERION GROUPS COMPARISON OF THE CROSS VALIDATION SAMPLE ON THE EVALUATION SECTION (19R)

No. of Variable	Name of Variable	Value of U	Absolute Value of z	Probability Level	Value of t	Probability Level
1	f of MANAGEMENT FUNCTIONS	2486.0	1.223	P > .05	1.10	P > .05
2	f of CONTROLLING	2529.0	1.413	P > .05	0.68	P > .05
3	f of LEADERSHIP AND DIRECTING	2369.5	1.593	P > .05	1.12	P > .05
4	f of ORGANIZATION	2473.0	1.752	P > .05	1.95	P > .05
5	f of PLANNING	2553.0	1.447	P > .05	1.45	P > .05
6	f of REPRESENTATION	2699.0	0.329	P > .05	0.46	P > .05
7	f of STAFFING	2661.5	0.620	P > .05	0.80	P > .05
8	f of USE OF COMMUNICATION	2701.0	0.581	P > .05	0.58	P > .05
9	f of SKILLS AND ABILITIES	2468.0	1.271	P > .05	-1.35	P > .05
10	f of COMMUNICATION	2563.5	0.998	P > .05	0.73	P > .05
11	f of CONDUCT, INTEGRITY, AND PRIDE	2315.5	1.818	P > .05	1.98	P = .05
12	f of COOPERATION	2442.0	1.842	P > .05	1.86	P > .05
13	f of ENDURANCE	2664.0	0.528	P > .05	-0.53	P > .05
14	f of FLEXIBILITY	2738.0	0.000	P > .05	-0.00	P > .05
15	f of GROOMING AND ATTIRE	2409.5	2.172	.01 < P < .05	1.93	P > .05
16	f of INITIATIVE	2555.0	1.080	P > .05	1.08	P > .05
17	f of INTELLECTUAL FUNCTIONING	2661.5	0.494	P > .05	-0.59	P > .05
18	f of PROFESSIONALISM	2252.0	2.967	.001 < P < .01	-3.02	.001 < P < .01
19	f of RELIABILITY AND DEPENDABILITY	2310.0	2.025	.01 < P < .05	1.67	P > .05
20	f of RESOURCEFULNESS	2696.0	0.354	P > .05	0.75	P > .05
21	f of RESPONSIVENESS	2482.0	2.001	.01 < P < .05	1.06	P > .05
22	f of TECHNICAL SKILLS	2399.0	1.442	P > .05	1.67	P > .05
23	f of PRODUCTIVITY AND ACHIEVEMENT	2605.0	0.529	P > .05	0.21	P > .05
24	f of AWARDS AND PUNISHMENT	2298.5	2.974	.001 < P < .01	-2.70	.001 < P < .01
25	f of DRIVE	2524.5	0.891	P > .05	-1.07	P > .05
26	f of SERVICE MOTIVATION	2599.5	0.830	P > .05	-0.65	P > .05
27	f of POTENTIAL	2418.0	1.439	P > .05	1.49	P > .05
28	f of REPUTE	2726.0	0.073	P > .05	0.63	P > .05
29	f of ASSET TO THE NAVY	2553.0	1.357	P > .05	1.36	P > .05
30	Sum of Variables 1 through 29	2451.0	1.103	P > .05	1.51	P > .05

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED *z* VALUES AND *t* TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. UPPER CRITERION GROUPS COMPARISON OF THE CROSS VALIDATION SAMPLE ON THE EVALUATION SECTION (19R)

No. of Variable	Name of Variable	Value of U	Absolute Value of *z*	Probability Level	Value of *t*	Probability Level
31	wf of MANAGEMENT FUNCTIONS	2296.0	2.121	.01 < P < .05	-2.26	.01 < P < .05
32	wf of CONTROLLING	2673.0	0.439	P > .05	-0.08	P > .05
33	wf of LEADERSHIP AND DIRECTING	2681.0	0.244	P > .05	-0.77	P > .05
34	wf of ORGANIZATION	2696.5	0.274	P > .05	0.23	P > .05
35	wf of PLANNING	2544.5	1.512	P > .05	1.89	P > .05
36	wf of REPRESENTATION	2702.0	0.304	P > .05	0.23	P > .05
37	wf of STAFFING	2665.5	0.587	P > .05	-0.49	P > .05
38	wf of USE OF COMMUNICATION	2701.0	0.581	P > .05	0.58	P > .05
39	wf of SKILLS AND ABILITIES	2321.0	1.941	P > .05	-2.34	.01 < P < .05
40	wf of COMMUNICATION	2653.5	0.482	P > .05	-0.09	P > .05
41	wf of CONDUCT, INTEGRITY, AND PRIDE	2621.0	0.506	P > .05	-0.03	P > .05
42	wf of COOPERATION	2469.0	1.668	P > .05	0.87	P > .05
43	wf of ENDURANCE	2668.0	0.498	P > .05	-0.27	P > .05
44	wf of FLEXIBILITY	2664.5	0.719	P > .05	-0.86	P > .05
45	wf of GROOMING AND ATTIRE	2530.0	1.405	P > .05	0.32	P > .05
46	wf of INITIATIVE	2634.5	0.608	P > .05	-0.50	P > .05
47	wf of INTELLECTUAL FUNCTIONING	2661.0	0.497	P > .05	-0.68	P > .05
48	wf of PROFESSIONALISM	2248.0	2.982	.001 < P < .01	-2.86	.001 < P < .01
49	wf of RELIABILITY AND DEPENDABILITY	2508.5	1.075	P > .05	-0.26	P > .05
50	wf of RESOURCEFULNESS	2703.5	0.291	P > .05	-0.00	P > .05
51	wf of RESPONSIVENESS	2483.0	1.992	.01 < P < .05	1.41	P > .05
52	wf of TECHNICAL SKILLS	2505.0	0.986	P > .05	0.76	P > .05
53	wf of PRODUCTIVITY AND ACHIEVEMENT	2373.0	1.429	P > .05	-1.82	P > .05
54	wf of AWARDS AND PUNISHMENT	2233.0	3.416	P < .001	-3.07	.001 < P < .01
55	wf of DRIVE	2396.5	1.420	P > .05	-1.77	P > .05
56	wf of SERVICE MOTIVATION	2585.5	0.912	P > .05	-0.84	P > .05
57	wf of POTENTIAL	2641.0	0.428	P > .05	0.90	P > .05
58	wf of REPUTE	2600.5	0.837	P > .05	-1.67	P > .05
59	wf of ASSET TO THE NAVY	2557.5	1.322	P > .05	0.97	P > .05
60	Sum of Variables 31 through 59	2305.5	1.660	P > .05	-0.93	P > .05

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED *z* VALUES AND *t* TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. UPPER CRITERION GROUPS COMPARISON OF THE CROSS VALIDATION SAMPLE ON THE EVALUATION SECTION (19R)

No. of Variable	Name of Variable	Value of U	Absolute Value of *z*	Probability Level	Value of *t*	Probability Level
61	Total Number of 3 Weights	1570.5	4.598	P < .001	-4.77	P < .001
62	Total Number of 2 Weights	2418.5	1.234	P > .05	1.31	P > .05
63	Total Number of 1 Weights	1909.0	3.228	.001 < P < .01	3.21	.001 < P < .01
64	Total Number of -1 Weights	1924.0	5.046	P < .001	3.99	P < .001
65	Total Number of -2 Weights	2701.0	1.000	P > .05	1.00	P > .05
66	Total Number of Words in Text	2478.0	0.997	P > .05	1.13	P > .05
67	Total Number of Index Terms Used	2422.0	1.218	P > .05	1.74	P > .05

MANN-WHITNEY U TESTS WITH ASSOCIATED *z* VALUES AND *t* TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. MIDDLE CRITERION GROUPS COMPARISON OF THE CROSS VALIDATION SAMPLE ON THE EVALUATION SECTION (19R)

No. of Variable	Name of Variable	Value of U	Absolute Value of z	Probability Level	Value of t	Probability Level
1	f of MANAGEMENT FUNCTIONS	2657.0	0.408	P > .05	-0.47	P > .05
2	f of CONTROLLING	2696.0	0.248	P > .05	-0.34	P > .05
3	f of LEADERSHIP AND DIRECTING	2594.5	0.598	P > .05	-0.99	P > .05
4	f of ORGANIZATION	2727.0	0.064	P > .05	-0.15	P > .05
5	f of PLANNING	2738.0	0.000	P > .05	0.00	P > .05
6	f of REPRESENTATION	2732.0	0.049	P > .05	0.49	P > .05
7	f of STAFFING	2628.5	0.924	P > .05	0.75	P > .05
8	f of USE OF COMMUNICATION	2701.0	0.453	P > .05	-0.45	P > .05
9	f of SKILLS AND ABILITIES	2679.5	0.287	P > .05	-0.75	P > .05
10	f of COMMUNICATION	2612.0	0.654	P > .05	-0.93	P > .05
11	f of CONDUCT, INTEGRITY, AND PRIDE	2677.0	0.255	P > .05	-0.32	P > .05
12	f of COOPERATION	2286.0	2.221	.01 < P < .05	-2.61	P = .01
13	f of ENDURANCE	2701.0	0.271	P > .05	-0.27	P > .05
14	f of FLEXIBILITY	2662.0	0.670	P > .05	-0.86	P > .05
15	f of GROOMING AND ATTIRE	2635.5	0.557	P > .05	-0.38	P > .05
16	f of INITIATIVE	2709.0	0.158	P > .05	0.18	P > .05
17	f of INTELLECTUAL FUNCTIONING	2403.0	1.911	P > .05	-1.86	P > .05
18	f of PROFESSIONALISM	2365.5	2.411	.01 < P < .05	-2.49	.01 < P < .05
19	f of RELIABILITY AND DEPENDABILITY	2459.5	1.286	P > .05	1.16	P > .05
20	f of RESOURCEFULNESS	2410.0	2.077	.01 < P < .05	-1.84	P > .05
21	f of RESPONSIVENESS	2476.0	2.048	.01 < P < .05	2.17	.01 < P < .05
22	f of TECHNICAL SKILLS	2682.0	0.233	P > .05	1.24	P > .05
23	f of PRODUCTIVITY AND ACHIEVEMENT	2135.5	2.418	.01 < P < .05	2.61	P = .01
24	f of AWARDS AND PUNISHMENT	2593.5	1.274	P > .05	-0.86	P > .05
25	f of DRIVE	2488.5	1.028	P > .05	-0.47	P > .05
26	f of SERVICE MOTIVATION	2312.0	2.281	.01 < P < .05	-1.90	P > .05
27	f of POTENTIAL	2537.0	0.893	P > .05	0.62	P > .05
28	f of REPUTE	2647.0	0.528	P > .05	-0.85	P > .05
29	f of ASSET TO THE NAVY	2701.0	0.235	P > .05	-0.23	P > .05
30	Sum of Variables 1 through 29	2493.5	0.940	P > .05	-0.64	P > .05

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED z VALUES AND t TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. MIDDLE CRITERION GROUPS COMPARISON OF THE CROSS VALIDATION SAMPLE ON THE EVALUATION SECTION (19R)

No. of Variable	Name of Variable	Value of U	Absolute Value of z	Probability Level	Value of t	Probability Level
31	wf of MANAGEMENT FUNCTIONS	2516.0	1.111	P > .05	-1.12	P > .05
32	wf of CONTROLLING	2559.0	1.053	P > .05	-0.91	P > .05
33	wf of LEADERSHIP AND DIRECTING	2309.5	1.770	P > .05	-2.34	.01 < P < .05
34	wf of ORGANIZATION	2525.5	1.230	P > .05	-1.37	P > .05
35	wf of PLANNING	2737.0	0.007	P > .05	0.00	P > .05
36	wf of REPRESENTATION	2730.0	0.065	P > .05	0.52	P > .05
37	wf of STAFFING	2704.5	0.283	P > .05	-0.13	P > .05
38	wf of USE OF COMMUNICATION	2699.0	0.478	P > .05	-1.01	P > .05
39	wf of SKILLS AND ABILITIES	2575.0	0.794	P > .05	-1.49	P > .05
40	wf of COMMUNICATION	2535.0	1.047	P > .05	-1.35	P > .05
41	wf of CONDUCT, INTEGRITY, AND PRIDE	2657.0	0.340	P > .05	-0.71	P > .05
42	wf of COOPERATION	2275.5	2.254	.01 < P < .05	-2.75	.001 < P < .01
43	wf of ENDURANCE	2693.5	0.326	P > .05	-0.61	P > .05
44	wf of FLEXIBILITY	2659.5	0.692	P > .05	-1.24	P > .05
45	wf of GROOMING AND ATTIRE	2514.5	1.222	P > .05	-1.24	P > .05
46	wf of INITIATIVE	2462.5	1.488	P > .05	-0.56	P > .05
47	wf of INTELLECTUAL FUNCTIONING	2399.5	1.929	P > .05	-1.82	P > .05
48	wf of PROFESSIONALISM	2358.5	2.450	.01 < P < .05	-2.47	.01 < P < .05
49	wf of RELIABILITY AND DEPENDABILITY	2512.5	1.030	P > .05	0.73	P > .05
50	wf of RESOURCEFULNESS	2332.5	2.564	.01 < P < .05	-2.18	.01 < P < .05
51	wf of RESPONSIVENESS	2467.0	2.117	.01 < P < .05	2.61	.01 < P < .05
52	wf of TECHNICAL SKILLS	2721.0	0.069	P > .05	1.13	P > .05
53	wf of PRODUCTIVITY AND ACHIEVEMENT	2574.0	0.647	P > .05	0.76	P > .05
54	wf of AWARDS AND PUNISHMENT	2523.0	1.896	P > .05	-1.35	P > .05
55	wf of DRIVE	2316.5	1.723	P > .05	-1.23	P > .05
56	wf of SERVICE MOTIVATION	2305.5	2.306	.01 < P < .05	-1.51	P > .05
57	wf of POTENTIAL	2690.5	0.208	P > .05	-0.35	P > .05
58	wf of REPUTE	2508.5	1.328	P > .05	-1.49	P > .05
59	wf of ASSET TO THE NAVY	2722.5	0.098	P > .05	-0.35	P > .05
60	Sum of Variables 31 through 59	2030.5	2.715	.001 < P < .01	-2.79	.001 < P < .01

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED *z* VALUES AND *t* TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. MIDDLE CRITERION GROUPS COMPARISON OF THE CROSS VALIDATION SAMPLE ON THE EVALUATION SECTION (19R)

No. of Variable	Name of Variable	Value of U	Absolute Value of *z*	Probability Level	Value of *t*	Probability Level
61	Total Number of 3 Weights	1882.0	3.396	P < .001	-3.34	P = .001
62	Total Number of 2 Weights	2706.5	0.122	P > .05	-0.28	P > .05
63	Total Number of 1 Weights	2505.0	0.903	P > .05	-0.84	P > .05
64	Total Number of -1 Weights	2091.0	3.686	P < .001	2.84	.001 < P < .01
65	Total Number of -2 Weights	2701.0	1.000	P > .05	1.00	P > .05
66	Total Number of Words in Text	2665.5	0.278	P > .05	0.08	P > .05
67	Total Number of Index Terms Used	2282.5	1.756	P > .05	-1.28	P > .05

MANN-WHITNEY U TESTS WITH ASSOCIATED *z* VALUES AND *t* TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE MIDDLE VS. UPPER CRITERION GROUPS COMPARISON OF THE CROSS VALIDATION SAMPLE ON THE EVALUATION SECTION (19R)

No. of Variable	Name of Variable	Value of U	Absolute Value of z	Probability Level	Value of t	Probability Level
1	f of MANAGEMENT FUNCTIONS	2570.5	0.801	P > .05	-0.61	P > .05
2	f of CONTROLLING	2491.0	1.631	P > .05	0.98	P > .05
3	f of LEADERSHIP AND DIRECTING	2288.0	1.951	P > .05	2.14	.01 < P < .05
4	f of ORGANIZATION	2467.0	1.791	P > .05	2.12	.01 < P < .05
5	f of PLANNING	2553.0	1.447	P > .05	1.45	P > .05
6	f of REPRESENTATION	2704.0	0.287	P > .05	-0.00	P > .05
7	f of STAFFING	2703.5	0.320	P > .05	0.00	P > .05
8	f of USE OF COMMUNICATION	2664.0	1.010	P > .05	1.01	P > .05
9	f of SKILLS AND ABILITIES	2534.0	0.953	P > .05	-0.46	P > .05
10	f of COMMUNICATION	2443.5	1.616	P > .05	1.56	P > .05
11	f of CONDUCT, INTEGRITY, AND PRIDE	2396.5	1.487	P > .05	2.07	.01 < P < .05
12	f of COOPERATION	2014.0	3.833	P < .001	3.92	P < .001
13	f of ENDURANCE	2701.0	0.257	P > .05	-0.26	P > .05
14	f of FLEXIBILITY	2662.0	0.670	P > .05	0.86	P > .05
15	f of GROOMING AND ATTIRE	2302.5	2.709	.001 < P < .01	2.41	.01 < P < .05
16	f of INITIATIVE	2524.0	1.244	P > .05	1.02	P > .05
17	f of INTELLECTUAL FUNCTIONING	2481.5	1.422	P > .05	1.24	P > .05
18	f of PROFESSIONALISM	2620.5	0.623	P > .05	-0.81	P > .05
19	f of RELIABILITY AND DEPENDABILITY	2592.0	0.734	P > .05	0.54	P > .05
20	f of RESOURCEFULNESS	2360.5	2.442	.01 < P < .05	2.59	.01 < P < .05
21	f of RESPONSIVENESS	2736.5	0.017	P > .05	-0.66	P > .05
22	f of TECHNICAL SKILLS	2399.5	1.438	P > .05	0.67	P > .05
23	f of PRODUCTIVITY AND ACHIEVEMENT	2318.5	1.685	P > .05	-2.19	.01 < P < .05
24	f of AWARDS AND PUNISHMENT	2435.0	1.884	P > .05	-2.05	.01 < P < .05
25	f of DRIVE	2726.5	0.047	P > .05	-0.68	P > .05
26	f of SERVICE MOTIVATION	2444.5	1.508	P > .05	1.20	P > .05
27	f of POTENTIAL	2629.5	0.502	P > .05	0.79	P > .05
28	f of REPUTE	2642.0	0.565	P > .05	0.14	P > .05
29	f of ASSET TO THE NAVY	2516.0	1.583	P > .05	1.59	P > .05
30	Sum of Variables 1 through 29	2255.5	1.854	P > .05	2.07	.01 < P < .05

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED z VALUES AND t TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE MIDDLE VS. UPPER CRITERION GROUPS COMPARISON OF THE CROSS VALIDATION SAMPLE ON THE EVALUATION SECTION (19R)

No. of Variable	Name of Variable	Value of U	Absolute Value of z	Probability Level	Value of t	Probability Level
31	wf of MANAGEMENT FUNCTIONS	2510.5	1.076	P > .05	-1.15	P > .05
32	wf of CONTROLLING	2497.0	1.591	P > .05	0.73	P > .05
33	wf of LEADERSHIP AND DIRECTING	2361.0	1.629	P > .05	1.58	P > .05
34	wf of ORGANIZATION	2477.5	1.720	P > .05	1.74	P > .05
35	wf of PLANNING	2541.5	1.536	P > .05	1.99	.01 < P < .05
36	wf of REPRESENTATION	2708.5	0.249	P > .05	-0.27	P > .05
37	wf of STAFFING	2699.0	0.361	P > .05	-0.36	P > .05
38	wf of USE OF COMMUNICATION	2663.0	1.024	P > .05	1.30	P > .05
39	wf of SKILLS AND ABILITIES	2520.0	1.007	P > .05	-0.41	P > .05
40	wf of COMMUNICATION	2466.0	1.487	P > .05	1.19	P > .05
41	wf of CONDUCT, INTEGRITY, AND PRIDE	2557.0	0.786	P > .05	0.66	P > .05
42	wf of COOPERATION	2040.0	3.677	P < .001	3.18	.001 < P < .01
43	wf of ENDURANCE	2715.5	0.156	P > .05	0.36	P > .05
44	wf of FLEXIBILITY	2732.5	0.048	P > .05	0.48	P > .05
45	wf of GROOMING AND ATTIRE	2315.0	2.623	.001 < P < .01	1.38	P > .05
46	wf of INITIATIVE	2551.0	1.083	P > .05	0.00	P > .05
47	wf of INTELLECTUAL FUNCTIONING	2484.5	1.403	P > .05	1.08	P > .05
48	wf of PROFESSIONALISM	2635.0	0.543	P > .05	-0.39	P > .05
49	wf of RELIABILITY AND DEPENDABILITY	2713.5	0.123	P > .05	-0.88	P > .05
50	wf of RESOURCEFULNESS	2363.5	2.418	.01 < P < .05	2.34	.01 < P < .05
51	wf of RESPONSIVENESS	2735.0	0.034	P > .05	-0.98	P > .05
52	wf of TECHNICAL SKILLS	2488.5	1.040	P > .05	-0.26	P > .05
53	wf of PRODUCTIVITY AND ACHIEVEMENT	2229.0	2.007	.01 < P < .05	-2.53	.01 < P < .05
54	wf of AWARDS AND PUNISHMENT	2435.0	1.884	P > .05	-2.05	.01 < P < .05
55	wf of DRIVE	2666.0	0.291	P > .05	-0.78	P > .05
56	wf of SERVICE MOTIVATION	2470.0	1.367	P > .05	0.53	P > .05
57	wf of POTENTIAL	2594.0	0.658	P > .05	1.23	P > .05
58	wf of REPUTE	2663.0	0.441	P > .05	-0.49	P > .05
59	wf of ASSET TO THE NAVY	2586.0	1.082	P > .05	1.23	P > .05
60	Sum of Variables 31 through 59	2550.0	0.722	P > .05	0.99	P > .05

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED *z* VALUES AND *t* TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE MIDDLE VS. UPPER CRITERION GROUPS COMPARISON OF THE CROSS VALIDATION SAMPLE ON THE EVALUATION SECTION (19R)

No. of Variable	Name of Variable	Value of U	Absolute Value of *z*	Probability Level	Value of *t*	Probability Level
61	Total Number of 3 Weights	2401.5	1.310	P > .05	-1.65	P > .05
62	Total Number of 2 Weights	2432.0	1.181	P > .05	1.49	P > .05
63	Total Number of 1 Weights	1767.0	3.774	P < .001	4.01	P < .001
64	Total Number of -1 Weights	2553.0	2.267	.01 < P < .05	1.51	P > .05
65	Total Number of -2 Weights	2738.0	0.000	P > .05	1.51	P > .05
66	Total Number of Words in Text	2445.0	1.124	P > .05	1.09	P > .05
67	Total Number of Index Terms Used	2027.5	2.741	.001 < P < .01	2.88	.001 < P < .01

MANN-WHITNEY U TESTS WITH ASSOCIATED *z* VALUES AND *t* TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. UPPER CRITERION GROUPS COMPARISON OF THE CROSS VALIDATION SAMPLE ON THE JUSTIFICATION SECTION (19S)

No. of Variable	Name of Variable	Value of U	Absolute Value of *z*	Probability Level	Value of *t*	Probability Level
1	f of MANAGEMENT FUNCTIONS	1926.5	4.568	P < .001	-4.34	P < .001
2	f of CONTROLLING	1695.0	5.704	P < .001	-4.67	P < .001
3	f of LEADERSHIP AND DIRECTING	989.0	7.475	P < .001	-7.38	P < .001
4	f of ORGANIZATION	2440.5	2.250	.01 < P < .05	-2.24	.01 < P < .05
5	f of PLANNING	2097.0	3.904	P < .001	-4.01	P < .001
6	f of REPRESENTATION	2482.5	2.366	.01 < P < .05	-1.87	P > .05
7	f of STAFFING	2329.0	3.196	.001 < P < .01	-2.93	.001 < P < .01
8	f of USE OF COMMUNICATION	2553.0	2.267	.01 < P < .05	-1.98	P = .05
9	f of SKILLS AND ABILITIES	1355.0	6.758	P < .001	-6.75	P < .001
10	f of COMMUNICATION	1476.0	5.799	P < .001	-5.97	P < .001
11	f of CONDUCT, INTEGRITY, AND PRIDE	1156.0	6.683	P < .001	-7.31	P < .001
12	f of COOPERATION	1943.5	4.193	P < .001	-4.12	P < .001
13	f of ENDURANCE	2143.0	3.848	P < .001	-3.94	P < .001
14	f of FLEXIBILITY	2589.0	1.672	P > .05	-1.77	P > .05
15	f of GROOMING AND ATTIRE	1945.0	3.903	P < .001	-3.66	P < .001
16	f of INITIATIVE	1591.5	5.714	P < .001	-5.39	P < .001
17	f of INTELLECTUAL FUNCTIONING	2151.5	3.398	P < .001	-2.82	.001 < P < .01
18	f of PROFESSIONALISM	1661.0	5.829	P < .001	-6.01	P < .001
19	f of RELIABILITY AND DEPENDABILITY	1265.0	6.741	P < .001	-6.72	P < .001
20	f of RESOURCEFULNESS	1842.0	4.786	P < .001	-4.71	P < .001
21	f of RESPONSIVENESS	1732.0	5.447	P < .001	-5.36	P < .001
22	f of TECHNICAL SKILLS	1088.0	7.227	P < .001	-6.93	P < .001
23	f of PRODUCTIVITY AND ACHIEVEMENT	386.0	9.738	P < .001	-9.29	P < .001
24	f of AWARDS AND PUNISHMENT	2515.5	2.178	.01 < P < .05	-2.19	.01 < P < .05
25	f of DRIVE	864.0	8.035	P < .001	-7.90	P < .001
26	f of SERVICE MOTIVATION	2027.5	4.187	P < .001	-4.24	P < .001
27	f of POTENTIAL	1013.5	7.637	P < .001	-8.44	P < .001
28	f of REPUTE	2032.5	4.467	P < .001	-4.30	P < .001
29	f of ASSET TO THE NAVY	1952.0	4.490	P < .001	-4.58	P < .001
30	Sum of Variables 1 through 29	149.5	10.082	P < .001	-11.48	P < .001

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED z VALUES AND t TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. UPPER CRITERION GROUPS COMPARISON OF THE CROSS VALIDATION SAMPLE ON THE JUSTIFICATION SECTION (19S)

No. of Variable	Name of Variable	Value of U	Absolute Value of z	Probability Level	Value of t	Probability Level
31	wf of MANAGEMENT FUNCTIONS	1921.5	4.586	P < .001	-4.26	P < .001
32	wf of CONTROLLING	1688.5	5.735	P < .001	-5.05	P < .001
33	wf of LEADERSHIP AND DIRECTING	956.0	7.599	P < .001	-7.42	P < .001
34	wf of ORGANIZATION	2449.0	2.184	.01 < P < .05	-1.44	P > .05
35	wf of PLANNING	2090.0	3.945	P < .001	-4.00	P < .001
36	wf of REPRESENTATION	2482.5	2.366	.01 < P < .05	-1.76	P > .05
37	wf of STAFFING	2330.0	3.187	.001 < P < .01	-2.76	.001 < P < .01
38	wf of USE OF COMMUNICATION	2553.0	2.267	.01 < P < .05	-2.11	.01 < P < .05
39	wf of SKILLS AND ABILITIES	1360.5	6.704	P < .001	-6.16	P < .001
40	wf of COMMUNICATION	1446.0	5.924	P < .001	-6.03	P < .001
41	wf of CONDUCT, INTEGRITY, AND PRIDE	1157.0	6.660	P < .001	-7.08	P < .001
42	wf of COOPERATION	1957.0	4.113	P < .001	-3.90	P < .001
43	wf of ENDURANCE	2153.0	3.777	P < .001	-3.10	.001 < P < .01
44	wf of FLEXIBILITY	2591.0	1.650	P > .05	-1.41	P > .05
45	wf of GROOMING AND ATTIRE	1989.0	3.679	P < .001	-3.31	P = .001
46	wf of INITIATIVE	1591.0	5.689	P < .001	-4.77	P < .001
47	wf of INTELLECTUAL FUNCTIONING	2165.0	3.315	P < .001	-2.27	.01 < P < .05
48	wf of PROFESSIONALISM	1663.5	5.797	P < .001	-5.59	P < .001
49	wf of RELIABILITY AND DEPENDABILITY	1291.0	6.593	P < .001	-6.00	P < .001
50	wf of RESOURCEFULNESS	1850.5	4.729	P < .001	-4.32	P < .001
51	wf of RESPONSIVENESS	1753.0	5.321	P < .001	-3.87	P < .001
52	wf of TECHNICAL SKILLS	1055.0	7.341	P < .001	-7.03	P < .001
53	wf of PRODUCTIVITY AND ACHIEVEMENT	358.0	9.824	P < .001	-9.96	P < .001
54	wf of AWARDS AND PUNISHMENT	2445.5	2.863	.001 < P < .01	-2.78	.001 < P < .01
55	wf of DRIVE	845.5	8.104	P < .001	-7.83	P < .001
56	wf of SERVICE MOTIVATION	2039.5	4.103	P < .001	-3.83	P < .001
57	wf of POTENTIAL	979.5	7.748	P < .001	-8.13	P < .001
58	wf of REPUTE	2040.5	4.411	P < .001	-3.93	P < .001
59	wf of ASSET TO THE NAVY	1948.5	4.498	P < .001	-4.47	P < .001
60	Sum of Variables 31 through 59	121.0	10.191	P < .001	-12.03	P < .001

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED *z* VALUES AND *t* TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. UPPER CRITERION GROUPS COMPARISON OF THE CROSS VALIDATION SAMPLE ON THE JUSTIFICATION SECTION (19S)

No. of Variable	Name of Variable	Value of U	Absolute Value of z	Probability Level	Value of t	Probability Level
61	Total Number of 3 Weights	358.5	9.362	P < .001	-4.93	P < .001
62	Total Number of 2 Weights	314.5	9.523	P < .001	-8.88	P < .001
63	Total Number of 1 Weights	446.0	9.126	P < .001	-8.37	P < .001
64	Total Number of -1 Weights	2664.0	1.419	P > .05	1.42	P > .05
65	Total Number of -2 Weights	2701.0	1.000	P > .05	1.00	P > .05
66	Total Number of Words in Text	127.0	10.167	P < .001	-10.62	P < .001
67	Total Number of Index Terms Used	145.5	10.103	P < .001	-15.92	P < .001

MANN-WHITNEY U TESTS WITH ASSOCIATED z VALUES AND t TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. MIDDLE CRITERION GROUPS COMPARISON OF THE CROSS VALIDATION SAMPLE ON THE JUSTIFICATION SECTION (19S)

No. of Variable	Name of Variable	Value of U	Absolute Value of z	Probability Level	Value of t	Probability Level
1	f of MANAGEMENT FUNCTIONS	1895.5	4.686	P < .001	-4.58	P < .001
2	f of CONTROLLING	1847.0	5.167	P < .001	-4.12	P < .001
3	f of LEADERSHIP AND DIRECTING	1394.0	6.029	P < .001	-5.66	P < .001
4	f of ORGANIZATION	2363.5	2.668	.001 < P < .01	-2.79	.001 < P < .01
5	f of PLANNING	2175.5	3.561	P < .001	-3.43	P = .001
6	f of REPRESENTATION	2481.5	2.375	.01 < P < .05	-1.88	P > .05
7	f of STAFFING	2441.5	2.615	.001 < P < .01	-2.46	.01 < P < .05
8	f of USE OF COMMUNICATION	2590.0	2.021	.01 < P < .05	-1.92	P > .05
9	f of SKILLS AND ABILITIES	1991.0	4.473	P < .001	-4.63	P < .001
10	f of COMMUNICATION	1915.0	4.120	P < .001	-3.58	P < .001
11	f of CONDUCT, INTEGRITY, AND PRIDE	1120.0	6.789	P < .001	-6.58	P < .001
12	f of COOPERATION	2065.0	3.688	P < .001	-3.41	P = .001
13	f of ENDURANCE	2553.0	1.714	P > .05	-1.73	P > .05
14	f of FLEXIBILITY	2553.0	1.930	P > .05	-1.95	P > .05
15	f of GROOMING AND ATTIRE	1931.5	3.948	P < .001	-3.30	P = .001
16	f of INITIATIVE	2000.0	4.157	P < .001	-4.07	P < .001
17	f of INTELLECTUAL FUNCTIONING	2341.0	2.514	.01 < P < .05	-1.84	P > .05
18	f of PROFESSIONALISM	2144.0	4.018	P < .001	-4.05	P < .001
19	f of RELIABILITY AND DEPENDABILITY	1639.5	5.407	P < .001	-5.12	P < .001
20	f of RESOURCEFULNESS	2001.5	4.150	P < .001	-2.93	.001 < P < .01
21	f of RESPONSIVENESS	2254.0	3.357	P < .001	-3.24	.001 < P < .01
22	f of TECHNICAL SKILLS	1699.0	4.998	P < .001	-4.98	P < .001
23	f of PRODUCTIVITY AND ACHIEVEMENT	927.5	7.890	P < .001	-8.12	P < .001
24	f of AWARDS AND PUNISHMENT	2664.0	1.010	P > .05	-1.01	P > .05
25	f of DRIVE	881.5	7.958	P < .001	-7.46	P < .001
26	f of SERVICE MOTIVATION	2399.0	2.484	.01 < P < .05	-2.67	.001 < P < .01
27	f of POTENTIAL	1511.0	5.895	P < .001	-6.02	P < .001
28	f of REPUTE	2218.0	3.703	P < .001	-3.59	P = .001
29	f of ASSET TO THE NAVY	2403.5	2.453	.01 < P < .05	-2.52	.01 < P < .05
30	Sum of Variables 1 through 29	268.0	9.622	P < .001	-11.39	P < .001

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED z VALUES AND t TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. MIDDLE CRITERION GROUPS COMPARISON OF THE CROSS VALIDATION SAMPLE ON THE JUSTIFICATION SECTION (19S)

No. of Variable	Name of Variable	Value of U	Absolute Value of z	Probability Level	Value of t	Probability Level
31	wf of MANAGEMENT FUNCTIONS	1879.5	4.760	P < .001	-4.83	P < .001
32	wf of CONTROLLING	1839.0	5.203	P < .001	-4.25	P < .001
33	wf of LEADERSHIP AND DIRECTING	1387.0	6.045	P < .001	-5.43	P < .001
34	wf of ORGANIZATION	2369.5	2.622	.001 < P < .01	-2.38	.01 < P < .05
35	wf of PLANNING	2175.5	3.557	P < .001	-3.39	P = .001
36	wf of REPRESENTATION	2481.5	2.375	.01 < P < .05	-1.84	P > .05
37	wf of STAFFING	2443.5	2.596	.001 < P < .01	-2.22	.01 < P < .05
38	wf of USE OF COMMUNICATION	2590.0	2.021	.01 < P < .05	-1.83	P > .05
39	wf of SKILLS AND ABILITIES	1997.0	4.430	P < .001	-4.11	P < .001
40	wf of COMMUNICATION	1873.5	4.320	P < .001	-3.72	P < .001
41	wf of CONDUCT, INTEGRITY, AND PRIDE	1115.0	6.796	P < .001	-6.61	P < .001
42	wf of COOPERATION	2080.5	3.592	P < .001	-3.09	.001 < P < .01
43	wf of ENDURANCE	2553.5	1.708	P > .05	-1.53	P > .05
44	wf of FLEXIBILITY	2555.5	1.903	P > .05	-1.33	P > .05
45	wf of GROOMING AND ATTIRE	1955.5	3.811	P < .001	-3.08	.001 < P < .01
46	wf of INITIATIVE	2072.0	3.741	P < .001	-3.21	.001 < P < .01
47	wf of INTELLECTUAL FUNCTIONING	2345.5	2.482	.01 < P < .05	-1.45	P > .05
48	wf of PROFESSIONALISM	2145.0	4.007	P < .001	-3.87	P < .001
49	wf of RELIABILITY AND DEPENDABILITY	1664.0	5.271	P < .001	-4.24	P < .001
50	wf of RESOURCEFULNESS	2004.0	4.121	P < .001	-3.15	.001 < P < .01
51	wf of RESPONSIVENESS	2259.0	3.319	P < .001	-2.91	.001 < P < .01
52	wf of TECHNICAL SKILLS	1721.0	4.870	P < .001	-4.70	P < .001
53	wf of PRODUCTIVITY AND ACHIEVEMENT	910.0	7.937	P < .001	-7.67	P < .001
54	wf of AWARDS AND PUNISHMENT	2591.5	2.000	.01 < P < .05	-2.00	.01 < P < .05
55	wf of DRIVE	957.0	7.604	P < .001	-6.59	P < .001
56	wf of SERVICE MOTIVATION	2400.5	2.472	.01 < P < .05	-2.52	.01 < P < .05
57	wf of POTENTIAL	1490.5	5.973	P < .001	-6.07	P < .001
58	wf of REPUTE	2224.5	3.654	P < .001	-3.23	.001 < P < .01
59	wf of ASSET TO THE NAVY	2402.0	2.461	.01 < P < .05	-2.31	.01 < P < .05
60	Sum of Variables 31 through 59	254.5	9.672	P < .001	-11.70	P < .001

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED *z* VALUES AND *t* TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. MIDDLE CRITERION GROUPS COMPARISON OF THE CROSS VALIDATION SAMPLE ON THE JUSTIFICATION SECTION (19S)

No. of Variable	Name of Variable	Value of U	Absolute Value of *z*	Probability Level	Value of *t*	Probability Level
61	Total Number of 3 Weights	698.5	8.080	P < .001	-8.37	P < .001
62	Total Number of 2 Weights	401.5	9.164	P < .001	-9.95	P < .001
63	Total Number of 1 Weights	565.0	8.673	P < .001	-8.86	P < .001
64	Total Number of -1 Weights	2702.0	0.566	P > .05	-0.00	P > .05
65	Total Number of -2 Weights	2701.0	1.000	P > .05	1.00	P > .05
66	Total Number of Words in Text	215.5	9.823	P < .001	-8.68	P < .001
67	Total Number of Index Terms Used	307.5	9.474	P < .001	-13.12	P < .001

MANN-WHITNEY U TESTS WITH ASSOCIATED *z* VALUES AND *t* TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE MIDDLE VS. UPPER CRITERION GROUPS COMPARISON OF THE CROSS VALIDATION SAMPLE ON THE JUSTIFICATION SECTION (19S)

No. of Variable	Name of Variable	Value of U	Absolute Value of *z*	Probability Level	Value of *t*	Probability Level
1	f of MANAGEMENT FUNCTIONS	2731.5	0.030	P > .05	-0.50	P > .05
2	f of CONTROLLING	2506.5	1.038	P > .05	-1.27	P > .05
3	f of LEADERSHIP AND DIRECTING	2302.5	1.720	P > .05	-1.23	P > .05
4	f of ORGANIZATION	2655.5	0.494	P > .05	0.50	P > .05
5	f of PLANNING	2654.0	0.421	P > .05	-0.21	P > .05
6	f of REPRESENTATION	2733.5	0.032	P > .05	0.51	P > .05
7	f of STAFFING	2615.5	0.776	P > .05	-1.11	P > .05
8	f of USE OF COMMUNICATION	2701.0	0.343	P > .05	-0.46	P > .05
9	f of SKILLS AND ABILITIES	2063.5	2.936	.001 < P < .01	-3.16	.001 < P < .01
10	f of COMMUNICATION	2230.5	2.115	.01 < P < .05	-1.70	P > .05
11	f of CONDUCT, INTEGRITY, AND PRIDE	2662.5	0.296	P > .05	-0.20	P > .05
12	f of COOPERATION	2588.5	0.682	P > .05	-0.71	P > .05
13	f of ENDURANCE	2320.5	2.463	.01 < P < .05	-2.66	.001 < P < .01
14	f of FLEXIBILITY	2707.0	0.262	P > .05	-0.25	P > .05
15	f of GROOMING AND ATTIRE	2680.0	0.252	P > .05	-0.82	P > .05
16	f of INITIATIVE	2317.5	1.859	P > .05	-1.99	.01 < P < .05
17	f of INTELLECTUAL FUNCTIONING	2532.0	1.045	P > .05	-1.48	P > .05
18	f of PROFESSIONALISM	2247.0	2.303	.01 < P < .05	-2.28	.01 < P < .05
19	f of RELIABILITY AND DEPENDABILITY	2328.0	1.687	P > .05	-1.53	P > .05
20	f of RESOURCEFULNESS	2525.0	0.969	P > .05	-0.57	P > .05
21	f of RESPONSIVENESS	2215.5	2.503	.01 < P < .05	-2.12	.01 < P < .05
22	f of TECHNICAL SKILLS	1964.5	3.136	.001 < P < .01	-3.40	P = .001
23	f of PRODUCTIVITY AND ACHIEVEMENT	1834.0	3.543	P < .001	-3.47	P = .001
24	f of AWARDS AND PUNISHMENT	2588.5	1.318	P > .05	-1.43	P > .05
25	f of DRIVE	2397.0	1.338	P > .05	-1.61	P > .05
26	f of SERVICE MOTIVATION	2380.0	1.872	P > .05	-1.65	P > .05
27	f of POTENTIAL	2154.0	2.367	.01 < P < .05	-2.38	.01 < P < .05
28	f of REPUTE	2554.0	0.952	P > .05	-0.88	P > .05
29	f of ASSET TO THE NAVY	2269.5	2.403	.01 < P < .05	-2.62	P = .01
30	Sum of Variables 1 through 29	1981.0	2.906	.001 < P < .01	-3.28	P = .001

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED *z* VALUES AND *t* TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE MIDDLE VS. UPPER CRITERION GROUPS COMPARISON OF THE CROSS VALIDATION SAMPLE ON THE JUSTIFICATION SECTION (19S)

No. of Variable	Name of Variable	Value of U	Absolute Value of *z*	Probability Level	Value of *t*	Probability Level
31	wf of MANAGEMENT FUNCTIONS	2658.5	0.361	P > .05	-0.00	P > .05
32	wf of CONTROLLING	2502.5	1.051	P > .05	-1.23	P > .05
33	wf of LEADERSHIP AND DIRECTING	2218.0	2.039	.01 < P < .05	-1.63	P > .05
34	wf of ORGANIZATION	2636.5	0.607	P > .05	1.22	P > .05
35	wf of PLANNING	2620.0	0.590	P > .05	-0.83	P > .05
36	wf of REPRESENTATION	2732.5	0.039	P > .05	0.51	P > .05
37	wf of STAFFING	2609.5	0.812	P > .05	-1.25	P > .05
38	wf of USE OF COMMUNICATION	2703.0	0.324	P > .05	0.00	P > .05
39	wf of SKILLS AND ABILITIES	2023.5	3.078	.001 < P < .01	-3.39	P = .001
40	wf of COMMUNICATION	2215.0	2.167	.01 < P < .05	-1.99	.01 < P < .05
41	wf of CONDUCT, INTEGRITY, AND PRIDE	2639.5	0.383	P > .05	-0.41	P > .05
42	wf of COOPERATION	2580.5	0.714	P > .05	-0.73	P > .05
43	wf of ENDURANCE	2344.0	2.316	.01 < P < .05	-1.82	P > .05
44	wf of FLEXIBILITY	2707.0	0.261	P > .05	-0.39	P > .05
45	wf of GROOMING AND ATTIRE	2727.0	0.047	P > .05	-0.73	P > .05
46	wf of INITIATIVE	2261.5	2.078	.01 < P < .05	-1.89	P > .05
47	wf of INTELLECTUAL FUNCTIONING	2558.5	0.907	P > .05	-1.22	P > .05
48	wf of PROFESSIONALISM	2259.0	2.228	.01 < P < .05	-2.04	.01 < P < .05
49	wf of RELIABILITY AND DEPENDABILITY	2267.5	1.905	P > .05	-1.86	P > .05
50	wf of RESOURCEFULNESS	2558.0	0.811	P > .05	-0.48	P > .05
51	wf of RESPONSIVENESS	2273.0	2.215	.01 < P < .05	-1.18	P > .05
52	wf of TECHNICAL SKILLS	1793.5	3.782	P < .001	-4.18	P < .001
53	wf of PRODUCTIVITY AND ACHIEVEMENT	1702.0	4.003	P < .001	-3.67	P < .001
54	wf of AWARDS AND PUNISHMENT	2588.5	1.318	P > .05	-1.43	P > .05
55	wf of DRIVE	2257.5	1.867	P > .05	-1.79	P > .05
56	wf of SERVICE MOTIVATION	2404.0	1.740	P > .05	-1.09	P > .05
57	wf of POTENTIAL	2076.0	2.637	.001 < P < .01	-2.95	.001 < P < .01
58	wf of REPUTE	2558.5	0.925	P > .05	-0.70	P > .05
59	wf of ASSET TO THE NAVY	2264.0	2.417	.01 < P < .05	-2.45	.01 < P < .05
60	Sum of Variables 31 through 59	1872.5	3.320	P < .001	-3.76	P < .001

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED *z* VALUES AND *t* TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE MIDDLE VS. UPPER CRITERION GROUPS COMPARISON OF THE CROSS VALIDATION SAMPLE ON THE JUSTIFICATION SECTION (19S)

No. of Variable	Name of Variable	Value of U	Absolute Value of *z*	Probability Level	Value of *t*	Probability Level
61	Total Number of 3 Weights	1825.0	3.522	P < .001	-2.54	.01 < P < .05
62	Total Number of 2 Weights	1957.0	3.004	.001 < P < .01	-3.04	.001 < P < .01
63	Total Number of 1 Weights	2316.0	1.624	P > .05	-1.70	P > .05
64	Total Number of -1 Weights	2701.0	1.000	P > .05	1.00	P > .05
65	Total Number of -2 Weights	2738.0	0.000	P > .05	1.00	P > .05
66	Total Number of Words in Text	1990.0	2.869	.001 < P < .01	-2.45	.001 < P < .01
67	Total Number of Index Terms Used	1956.0	3.007	.001 < P < .01	-3.25	P = .001

MANN-WHITNEY U TESTS WITH ASSOCIATED z VALUES AND t TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. UPPER CRITERION GROUPS COMPARISON OF THE GENERALIZATION SAMPLE ON THE EVALUATION SECTION (19R)

No. of Variable	Name of Variable	Value of U	Absolute Value of z	Probability Level	Value of t	Probability Level
1	f of MANAGEMENT FUNCTIONS	2584.0	0.792	P > .05	-0.84	P > .05
2	f of CONTROLLING	2480.5	1.345	P > .05	0.21	P > .05
3	f of LEADERSHIP AND DIRECTING	2595.0	0.605	P > .05	-0.32	P > .05
4	f of ORGANIZATION	2733.5	0.030	P > .05	0.20	P > .05
5	f of PLANNING	2617.0	0.649	P > .05	-0.29	P > .05
6	f of REPRESENTATION	2627.0	1.158	P > .05	-1.16	P > .05
7	f of STAFFING	2656.0	0.555	P > .05	0.86	P > .05
8	f of USE OF COMMUNICATION	2738.0	0.000	P > .05	0.00	P > .05
9	f of SKILLS AND ABILITIES	2699.5	0.200	P > .05	-0.53	P > .05
10	f of COMMUNICATION	2350.0	1.966	.01 < P < .05	1.44	P > .05
11	f of CONDUCT, INTEGRITY, AND PRIDE	2714.5	0.100	P > .05	-0.83	P > .05
12	f of COOPERATION	2602.0	0.756	P > .05	-1.21	P > .05
13	f of ENDURANCE	2627.0	1.744	P > .05	-1.76	P > .05
14	f of FLEXIBILITY	2590.5	1.300	P > .05	1.18	P > .05
15	f of GROOMING AND ATTIRE	2733.5	0.028	P > .05	-0.00	P > .05
16	f of INITIATIVE	2583.0	0.963	P > .05	-1.10	P > .05
17	f of INTELLECTUAL FUNCTIONING	2515.5	1.505	P > .05	-1.49	P > .05
18	f of PROFESSIONALISM	2524.5	1.107	P > .05	-1.61	P > .05
19	f of RELIABILITY AND DEPENDABILITY	2475.0	1.347	P > .05	1.81	P > .05
20	f of RESOURCEFULNESS	2628.0	0.763	P > .05	0.52	P > .05
21	f of RESPONSIVENESS	2526.0	1.603	P > .05	0.93	P > .05
22	f of TECHNICAL SKILLS	2550.5	0.799	P > .05	-0.76	P > .05
23	f of PRODUCTIVITY AND ACHIEVEMENT	2563.5	0.688	P > .05	0.65	P > .05
24	f of AWARDS AND PUNISHMENT	2300.0	2.545	.01 < P < .05	-2.35	.01 < P < .05
25	f of DRIVE	2667.0	0.293	P > .05	0.21	P > .05
26	f of SERVICE MOTIVATION	2661.0	0.521	P > .05	-0.61	P > .05
27	f of POTENTIAL	2643.0	0.453	P > .05	0.26	P > .05
28	f of REPUTE	2480.0	1.475	P > .05	-1.43	P > .05
29	f of ASSET TO THE NAVY	2580.0	0.948	P > .05	-1.19	P > .05
30	Sum of Variables 1 through 29	2697.5	0.156	P > .05	-0.52	P > .05

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED *z* VALUES AND *t* TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. UPPER CRITERION GROUPS COMPARISON OF THE GENERALIZATION SAMPLE ON THE EVALUATION SECTION (19R)

No. of Variable	Name of Variable	Value of U	Absolute Value of *z*	Probability Level	Value of *t*	Probability Level
31	wf of MANAGEMENT FUNCTIONS	2500.0	1.214	P > .05	-1.35	P > .05
32	wf of CONTROLLING	2550.0	0.991	P > .05	-0.51	P > .05
33	wf of LEADERSHIP AND DIRECTING	2500.0	1.007	P > .05	-1.60	P > .05
34	wf of ORGANIZATION	2737.0	0.007	P > .05	-0.10	P > .05
35	wf of PLANNING	2637.5	0.537	P > .05	-0.43	P > .05
36	wf of REPRESENTATION	2628.5	1.142	P > .05	-0.99	P > .05
37	wf of STAFFING	2656.5	0.551	P > .05	0.82	P > .05
38	wf of USE OF COMMUNICATION	2738.0	0.000	P > .05	0.00	P > .05
39	wf of SKILLS AND ABILITIES	2593.5	0.745	P > .05	-1.20	P > .05
40	wf of COMMUNICATION	2524.5	1.078	P > .05	0.06	P > .05
41	wf of CONDUCT, INTEGRITY, AND PRIDE	2464.0	1.169	P > .05	-1.38	P > .05
42	wf of COOPERATION	2531.0	1.146	P > .05	-1.55	P > .05
43	wf of ENDURANCE	2627.0	1.744	P > .05	-1.52	P > .05
44	wf of FLEXIBILITY	2737.5	0.004	P > .05	-0.29	P > .05
45	wf of GROOMING AND ATTIRE	2734.5	0.022	P > .05	0.00	P > .05
46	wf of INITIATIVE	2517.5	1.367	P > .05	-1.38	P > .05
47	wf of INTELLECTUAL FUNCTIONING	2510.5	1.537	P > .05	-1.66	P > .05
48	wf of PROFESSIONALISM	2467.0	1.396	P > .05	-2.34	.01 < P < .05
49	wf of RELIABILITY AND DEPENDABILITY	2492.5	1.252	P > .05	1.35	P > .05
50	wf of RESOURCEFULNESS	2630.5	0.745	P > .05	0.42	P > .05
51	wf of RESPONSIVENESS	2523.0	1.625	P > .05	0.83	P > .05
52	wf of TECHNICAL SKILLS	2399.0	1.434	P > .05	-1.45	P > .05
53	wf of PRODUCTIVITY AND ACHIEVEMENT	2624.5	0.442	P > .05	-0.62	P > .05
54	wf of AWARDS AND PUNISHMENT	2236.0	2.915	.001 < P < .01	-2.69	.001 < P < .01
55	wf of DRIVE	2540.0	0.814	P > .05	-1.01	P > .05
56	wf of SERVICE MOTIVATION	2659.5	0.530	P > .05	-0.80	P > .05
57	wf of POTENTIAL	2675.0	0.297	P > .05	0.37	P > .05
58	wf of REPUTE	2457.0	1.602	P > .05	-1.79	P > .05
59	wf of ASSET TO THE NAVY	2559.5	1.067	P > .05	-1.62	P > .05
60	Sum of Variables 31 through 59	2298.0	1.689	P > .05	-1.86	P > .05

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED z VALUES AND t TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. UPPER CRITERION GROUPS COMPARISON OF THE GENERALIZATION SAMPLE ON THE EVALUATION SECTION (19R)

No. of Variable	Name of Variable	Value of U	Absolute Value of z	Probability Level	Value of t	Probability Level
61	Total Number of 3 Weights	1946.5	3.092	.001 < P < .01	-2.84	.001 < P < .01
62	Total Number of 2 Weights	2580.0	0.610	P > .05	-0.23	P > .05
63	Total Number of 1 Weights	2354.5	1.494	P > .05	0.33	P > .05
64	Total Number of -1 Weights	1954.5	4.768	P < .001	3.93	P < .001
65	Total Number of -2 Weights	2701.0	1.000	P > .05	1.00	P > .05
66	Total Number of Words in Text	2589.0	0.572	P > .05	0.18	P > .05
67	Total Number of Index Terms Used	2708.5	0.114	P > .05	0.04	P > .05

MANN-WHITNEY U TESTS WITH ASSOCIATED *z* VALUES AND *t* TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. MIDDLE CRITERION GROUPS COMPARISON OF THE GENERALIZATION SAMPLE ON THE EVALUATION SECTION (19R)

No. of Variable	Name of Variable	Value of U	Absolute Value of *z*	Probability Level	Value of *t*	Probability Level
1	f of MANAGEMENT FUNCTIONS	2296.0	2.138	.01 < P < .05	-2.40	.01 < P < .05
2	f of CONTROLLING	2581.0	0.796	P > .05	0.11	P > .05
3	f of LEADERSHIP AND DIRECTING	2734.5	0.015	P > .05	-0.15	P > .05
4	f of ORGANIZATION	2657.0	0.577	P > .05	0.90	P > .05
5	f of PLANNING	2488.0	1.393	P > .05	1.18	P > .05
6	f of REPRESENTATION	2550.0	1.741	P > .05	-1.94	P > .05
7	f of STAFFING	2692.0	0.291	P > .05	-0.51	P > .05
8	f of USE OF COMMUNICATION	2664.0	1.010	P > .05	-1.01	P > .05
9	f of SKILLS AND ABILITIES	2685.5	0.278	P > .05	0.50	P > .05
10	f of COMMUNICATION	2178.0	2.960	.001 < P < .01	2.70	.001 < P < .01
11	f of CONDUCT, INTEGRITY, AND PRIDE	2382.0	1.581	P > .05	1.06	P > .05
12	f of COOPERATION	2731.5	0.038	P > .05	-0.18	P > .05
13	f of ENDURANCE	2701.0	1.000	P > .05	-1.00	P > .05
14	f of FLEXIBILITY	2623.0	0.970	P > .05	1.25	P > .05
15	f of GROOMING AND ATTIRE	2628.0	0.727	P > .05	0.77	P > .05
16	f of INITIATIVE	2560.0	1.087	P > .05	-0.85	P > .05
17	f of INTELLECTUAL FUNCTIONING	2738.0	0.000	P > .05	0.00	P > .05
18	f of PROFESSIONALISM	2613.5	0.660	P > .05	-0.83	P > .05
19	f of RELIABILITY AND DEPENDABILITY	2691.0	0.225	P > .05	-0.00	P > .05
20	f of RESOURCEFULNESS	2657.0	0.548	P > .05	0.77	P > .05
21	f of RESPONSIVENESS	2617.0	0.739	P > .05	-1.00	P > .05
22	f of TECHNICAL SKILLS	2693.0	0.197	P > .05	-0.24	P > .05
23	f of PRODUCTIVITY AND ACHIEVEMENT	2369.5	1.458	P > .05	1.38	P > .05
24	f of AWARDS AND PUNISHMENT	2592.0	0.988	P > .05	-0.86	P > .05
25	f of DRIVE	2726.0	0.049	P > .05	0.00	P > .05
26	f of SERVICE MOTIVATION	2588.0	1.216	P > .05	1.34	P > .05
27	f of POTENTIAL	2252.0	2.523	.01 < P < .05	2.53	.01 < P < .05
28	f of REPUTE	2702.0	0.228	P > .05	-0.19	P > .05
29	f of ASSET TO THE NAVY	2701.0	0.245	P > .05	0.24	P > .05
30	Sum of Variables 1 through 29	2528.5	0.805	P > .05	0.80	P > .05

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED *z* VALUES AND *t* TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. MIDDLE CRITERION GROUPS COMPARISON OF THE GENERALIZATION SAMPLE ON THE EVALUATION SECTION (19R)

No. of Variable	Name of Variable	Value of U	Absolute Value of z	Probability Level	Value of t	Probability Level
31	wf of MANAGEMENT FUNCTIONS	2196.5	2.596	.001 < P < .01	-2.95	.001 < P < .01
32	wf of CONTROLLING	2572.0	0.847	P > .05	-0.06	P > .05
33	wf of LEADERSHIP AND DIRECTING	2384.5	1.470	P > .05	-1.40	P > .05
34	wf of ORGANIZATION	2664.5	0.523	P > .05	0.54	P > .05
35	wf of PLANNING	2475.0	1.458	P > .05	1.41	P > .05
36	wf of REPRESENTATION	2550.0	1.741	P > .05	-1.89	P > .05
37	wf of STAFFING	2717.5	0.130	P > .05	-0.43	P > .05
38	wf of USE OF COMMUNICATION	2664.0	1.010	P > .05	-1.01	P > .05
39	wf of SKILLS AND ABILITIES	2729.0	0.048	P > .05	0.19	P > .05
40	wf of COMMUNICATION	2285.5	2.383	.01 < P < .05	1.70	P > .05
41	wf of CONDUCT, INTEGRITY, AND PRIDE	2630.0	0.481	P > .05	0.95	P > .05
42	wf of COOPERATION	2694.5	0.252	P > .05	0.33	P > .05
43	wf of ENDURANCE	2701.0	1.000	P > .05	-1.00	P > .05
44	wf of FLEXIBILITY	2703.0	0.295	P > .05	-0.32	P > .05
45	wf of GROOMING AND ATTIRE	2693.5	0.651	P > .05	0.60	P > .05
46	wf of INITIATIVE	2476.0	1.595	P > .05	-1.49	P > .05
47	wf of INTELLECTUAL FUNCTIONING	2736.0	0.016	P > .05	0.16	P > .05
48	wf of PROFESSIONALISM	2601.5	0.719	P > .05	-1.03	P > .05
49	wf of RELIABILITY AND DEPENDABILITY	2706.0	0.152	P > .05	0.56	P > .05
50	wf of RESOURCEFULNESS	2661.5	0.517	P > .05	0.57	P > .05
51	wf of RESPONSIVENESS	2623.5	0.698	P > .05	-0.87	P > .05
52	wf of TECHNICAL SKILLS	2651.5	0.378	P > .05	-0.88	P > .05
53	wf of PRODUCTIVITY AND ACHIEVEMENT	2576.0	0.632	P > .05	0.89	P > .05
54	wf of AWARDS AND PUNISHMENT	2524.0	1.448	P > .05	-1.23	P > .05
55	wf of DRIVE	2476.0	1.072	P > .05	-1.15	P > .05
56	wf of SERVICE MOTIVATION	2586.5	1.228	P > .05	1.36	P > .05
57	wf of POTENTIAL	2212.0	2.711	.001 < P < .01	3.21	.001 < P < .01
58	wf of REPUTE	2691.5	0.294	P > .05	-0.36	P > .05
59	wf of ASSET TO THE NAVY	2713.5	0.162	P > .05	-0.12	P > .05
60	Sum of Variables 31 through 59	2671.0	0.257	P > .05	-0.17	P > .05

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED z VALUES AND t TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. MIDDLE CRITERION GROUPS COMPARISON OF THE GENERALIZATION SAMPLE ON THE EVALUATION SECTION (19R)

No. of Variable	Name of Variable	Value of U	Absolute Value of z	Probability Level	Value of t	Probability Level
61	Total Number of 3 Weights	2511.5	0.891	P > .05	-1.10	P > .05
62	Total Number of 2 Weights	2439.5	1.153	P > .05	0.86	P > .05
63	Total Number of 1 Weights	2662.5	0.293	P > .05	0.20	P > .05
64	Total Number of -1 Weights	2189.0	3.041	.001 < P < .01	2.40	.01 < P < .05
65	Total Number of -2 Weights	2701.0	1.000	P > .05	1.20	P > .05
66	Total Number of Words in Text	2265.0	1.814	P > .05	1.78	P > .05
67	Total Number of Index Terms Used	2522.0	0.833	P > .05	0.99	P > .05

MANN-WHITNEY U TESTS WITH ASSOCIATED z VALUES AND t TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE MIDDLE VS. UPPER CRITERION GROUPS COMPARISON OF THE GENERALIZATION SAMPLE ON THE EVALUATION SECTION (19R)

No. of Variable	Name of Variable	Value of U	Absolute Value of z	Probability Level	Value of t	Probability Level
1	f of MANAGEMENT FUNCTIONS	2445.0	1.379	P > .05	1.62	P > .05
2	f of CONTROLLING	2640.0	0.543	P > .05	0.10	P > .05
3	f of LEADERSHIP AND DIRECTING	2609.5	0.546	P > .05	-0.19	P > .05
4	f of ORGANIZATION	2660.5	0.552	P > .05	-0.72	P > .05
5	f of PLANNING	2616.5	0.716	P > .05	-1.16	P > .05
6	f of REPRESENTATION	2656.5	0.661	P > .05	1.22	P > .05
7	f of STAFFING	2611.0	0.839	P > .05	1.34	P > .05
8	f of USE OF COMMUNICATION	2664.0	1.010	P > .05	1.01	P > .05
9	f of SKILLS AND ABILITIES	2648.0	0.472	P > .05	-0.97	P > .05
10	f of COMMUNICATION	2581.0	0.974	P > .05	-1.12	P > .05
11	f of CONDUCT, INTEGRITY, AND PRIDE	2373.5	1.618	P > .05	-1.64	P > .05
12	f of COOPERATION	2609.5	0.714	P > .05	-1.03	P > .05
13	f of ENDURANCE	2664.0	1.010	P > .05	-1.01	P > .05
14	f of FLEXIBILITY	2703.0	0.365	P > .05	0.00	P > .05
15	f of GROOMING AND ATTIRE	2624.5	0.750	P > .05	-0.80	P > .05
16	f of INITIATIVE	2722.0	0.092	P > .05	-0.36	P > .05
17	f of INTELLECTUAL FUNCTIONING	2515.5	1.505	P > .05	-1.49	P > .05
18	f of PROFESSIONALISM	2646.0	0.463	P > .05	-0.95	P > .05
19	f of RELIABILITY AND DEPENDABILITY	2418.0	1.610	P > .05	1.87	P > .05
20	f of RESOURCEFULNESS	2706.0	0.235	P > .05	-0.19	P > .05
21	f of RESPONSIVENESS	2414.0	2.247	.01 < P < .05	1.77	P > .05
22	f of TECHNICAL SKILLS	2504.5	1.001	P > .05	-0.46	P > .05
23	f of PRODUCTIVITY AND ACHIEVEMENT	2552.5	0.737	P > .05	-0.73	P > .05
24	f of AWARDS AND PUNISHMENT	2446.0	1.606	P > .05	-1.48	P > .05
25	f of DRIVE	2682.5	0.230	P > .05	0.20	P > .05
26	f of SERVICE MOTIVATION	2512.0	1.709	P > .05	-1.88	P > .05
27	f of POTENTIAL	2356.0	2.046	.01 < P < .05	-2.17	.01 < P < .05
28	f of REPUTE	2515.5	1.254	P > .05	-1.26	P > .05
29	f of ASSET TO THE NAVY	2544.0	1.184	P > .05	-1.41	P > .05
30	Sum of Variables 1 through 29	2605.5	0.509	P > .05	-1.05	P > .05

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED *z* VALUES AND *t* TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE MIDDLE VS. UPPER CRITERION GROUPS COMPARISON OF THE GENERALIZATION SAMPLE ON THE EVALUATION SECTION (19R)

No. of Variable	Name of Variable	Value of U	Absolute Value of *z*	Probability Level	Value of *t*	Probability Level
31	wf of MANAGEMENT FUNCTIONS	2438.5	1.394	P > .05	1.58	P > .05
32	wf of CONTROLLING	2719.0	0.105	P > .05	-0.40	P > .05
33	wf of LEADERSHIP AND DIRECTING	2648.0	0.381	P > .05	-0.46	P > .05
34	wf of ORGANIZATION	2663.5	0.530	P > .05	-0.61	P > .05
35	wf of PLANNING	2598.0	0.823	P > .05	-1.51	P > .05
36	wf of REPRESENTATION	2653.5	0.685	P > .05	.15	P > .05
37	wf of STAFFING	2680.5	0.379	P > .05	.14	P > .05
38	wf of USE OF COMMUNICATION	2664.0	1.010	P > .05	1.01	P > .05
39	wf of SKILLS AND ABILITIES	2588.5	0.788	P > .05	-1.39	P > .05
40	wf of COMMUNICATION	2516.0	1.376	P > .05	-1.39	P > .05
41	wf of CONDUCT, INTEGRITY, AND PRIDE	2322.0	1.843	P > .05	-2.13	.01 < P < .05
42	wf of COOPERATION	2567.0	0.947	P > .05	-1.89	P > .05
43	wf of ENDURANCE	2664.5	1.003	P > .05	-0.78	P > .05
44	wf of FLEXIBILITY	2703.0	0.365	P > .05	0.00	P > .05
45	wf of GROOMING AND ATTIRE	2636.0	0.673	P > .05	-0.59	P > .05
46	wf of INITIATIVE	2695.0	0.245	P > .05	-0.09	P > .05
47	wf of INTELLECTUAL FUNCTIONING	2507.0	1.561	P > .05	-1.83	P > .05
48	wf of PROFESSIONALISM	2592.5	0.728	P > .05	-1.56	P > .05
49	wf of RELIABILITY AND DEPENDABILITY	2514.0	1.120	P > .05	0.87	P > .05
50	wf of RESOURCEFULNESS	2706.0	0.234	P > .05	-0.11	P > .05
51	wf of RESPONSIVENESS	2412.0	2.260	.01 < P < .05	1.56	P > .05
52	wf of TECHNICAL SKILLS	2514.0	0.954	P > .05	-0.45	P > .05
53	wf of PRODUCTIVITY AND ACHIEVEMENT	2422.0	1.241	P > .05	-1.47	P > .05
54	wf of AWARDS AND PUNISHMENT	2446.0	1.606	P > .05	-1.48	P > .05
55	wf of DRIVE	2711.0	0.111	P > .05	0.15	P > .05
56	wf of SERVICE MOTIVATION	2509.5	1.726	P > .05	-1.90	P > .05
57	wf of POTENTIAL	2257.5	2.561	.01 < P < .05	-2.94	.001 < P < .01
58	wf of REPUTE	2507.0	1.298	P > .05	-1.53	P > .05
59	wf of ASSET TO THE NAVY	2535.5	1.233	P > .05	-1.50	P > .05
60	Sum of Variables 31 through 59	2328.0	1.575	P > .05	-1.72	P > .05

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED z VALUES AND t TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE MIDDLE VS. UPPER CRITERION GROUPS COMPARISON OF THE GENERALIZATION SAMPLE ON THE EVALUATION SECTION (19R)

No. of Variable	Name of Variable	Value of U	Absolute Value of z	Probability Level	Value of t	Probability Level
61	Total Number of 3 Weights	2166.5	2.227	.01 < P < .05	-2.20	.01 < P < .05
62	Total Number of 2 Weights	2678.0	0.232	P > .05	-0.88	P > .05
63	Total Number of 1 Weights	2443.5	1.150	P > .05	0.16	P > .05
64	Total Number of -1 Weights	2513.5	2.197	.01 < P < .05	2.12	.01 < P < .05
65	Total Number of -2 Weights	2738.0	0.000	P > .05	2.12	P > .05
66	Total Number of Words in Text	2537.5	0.769	P > .05	-1.19	P > .05
67	Total Number of Index Terms Used	2579.5	0.610	P > .05	-0.70	P > .05

MANN-WHITNEY U TESTS WITH ASSOCIATED *z* VALUES AND *t* TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. UPPER CRITERION GROUPS COMPARISON OF THE GENERALIZATION SAMPLE ON THE JUSTIFICATION SECTION (19S)

No. of Variable	Name of Variable	Value of U	Absolute Value of *z*	Probability Level	Value of *t*	Probability Level
1	f of MANAGEMENT FUNCTIONS	1882.5	5.034	P < .001	-4.77	P < .001
2	f of CONTROLLING	1650.0	5.504	P < .001	-4.75	P < .001
3	f of LEADERSHIP AND DIRECTING	851.5	8.093	P < .001	-8.15	P < .001
4	f of ORGANIZATION	2397.5	2.495	.01 < P < .05	-2.69	.001 < P < .01
5	f of PLANNING	1847.5	4.875	P < .001	-4.26	P < .001
6	f of REPRESENTATION	2477.5	2.412	.01 < P < .05	-2.38	.01 < P < .05
7	f of STAFFING	2381.0	2.544	.01 < P < .05	-1.80	P > .05
8	f of USE OF COMMUNICATION	2553.0	1.714	P > .05	-1.73	P > .05
9	f of SKILLS AND ABILITIES	1331.0	6.808	P < .001	-6.58	P < .001
10	f of COMMUNICATION	1519.5	5.473	P < .001	-4.50	P < .001
11	f of CONDUCT, INTEGRITY, AND PRIDE	925.0	7.450	P < .001	-6.42	P < .001
12	f of COOPERATION	1563.5	5.263	P < .001	-5.05	P < .001
13	f of ENDURANCE	2404.5	2.814	.001 < P < .01	-2.83	.001 < P < .01
14	f of FLEXIBILITY	2590.0	1.449	P > .05	-1.45	P > .05
15	f of GROOMING AND ATTIRE	1429.5	5.712	P < .001	-3.81	P < .001
16	f of INITIATIVE	1156.5	7.316	P < .001	-6.69	P < .001
17	f of INTELLECTUAL FUNCTIONING	2143.5	3.689	P < .001	-3.66	P < .001
18	f of PROFESSIONALISM	1659.0	5.831	P < .001	-5.99	P < .001
19	f of RELIABILITY AND DEPENDABILITY	977.0	7.646	P < .001	-7.84	P < .001
20	f of RESOURCEFULNESS	1680.0	5.414	P < .001	-5.47	P < .001
21	f of RESPONSIVENESS	2249.5	2.981	.001 < P < .01	-3.13	.001 < P < .01
22	f of TECHNICAL SKILLS	1218.0	6.859	P < .001	-6.64	P < .001
23	f of PRODUCTIVITY AND ACHIEVEMENT	452.5	9.371	P < .001	-9.47	P < .001
24	f of AWARDS AND PUNISHMENT	2701.0	1.000	P > .05	-1.00	P > .05
25	f of DRIVE	675.5	8.734	P < .001	-8.91	P < .001
26	f of SERVICE MOTIVATION	1840.0	4.811	P < .001	-4.95	P < .001
27	f of POTENTIAL	1361.5	6.116	P < .001	-6.29	P < .001
28	f of REPUTE	2107.0	4.170	P < .001	-4.22	P < .001
29	f of ASSET TO THE NAVY	1728.5	5.341	P < .001	-5.54	P < .001
30	Sum of Variables 1 through 29	161.5	9.969	P < .001	-11.78	P < .001

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED z VALUES AND t TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. UPPER CRITERION GROUPS COMPARISON OF THE GENERALIZATION SAMPLE ON THE JUSTIFICATION SECTION (19S)

No. of Variable	Name of Variable	Value of U	Absolute Value of z	Probability Level	Value of t	Probability Level
31	wf of MANAGEMENT FUNCTIONS	1878.0	5.057	P < .001	-4.83	P < .001
32	wf of CONTROLLING	1649.0	5.498	P < .001	-4.64	P < .001
33	wf of LEADERSHIP AND DIRECTING	860.5	8.037	P < .001	-7.76	P < .001
34	wf of ORGANIZATION	2388.5	2.560	.01 < P < .05	-2.97	.001 < P < .01
35	wf of PLANNING	1846.0	4.876	P < .001	-4.41	P < .001
36	wf of REPRESENTATION	2476.5	2.421	.01 < P < .05	-2.46	.01 < P < .05
37	wf of STAFFING	2385.5	2.509	.01 < P < .05	-1.52	P > .05
38	wf of USE OF COMMUNICATION	2554.0	1.704	P > .05	-1.41	P > .05
39	wf of SKILLS AND ABILITIES	1326.0	6.816	P < .001	-6.47	P < .001
40	wf of COMMUNICATION	1509.5	5.497	P < .001	-4.85	P < .001
41	wf of CONDUCT, INTEGRITY, AND PRIDE	982.5	7.191	P < .001	-7.01	P < .001
42	wf of COOPERATION	1598.0	5.078	P < .001	-4.23	P < .001
43	wf of ENDURANCE	2401.5	2.838	.001 < P < .01	-2.93	.001 < P < .01
44	wf of FLEXIBILITY	2588.0	1.468	P > .05	-1.61	P > .05
45	wf of GROOMING AND ATTIRE	1401.0	5.761	P < .001	-3.98	P < .001
46	wf of INITIATIVE	1156.0	7.265	P < .001	-6.18	P < .001
47	wf of INTELLECTUAL FUNCTIONING	2158.0	3.596	P < .001	-3.11	.001 < P < .01
48	wf of PROFESSIONALISM	1661.5	5.806	P < .001	-5.57	P < .001
49	wf of RELIABILITY AND DEPENDABILITY	968.5	7.647	P < .001	-7.55	P < .001
50	wf of RESOURCEFULNESS	1700.0	5.293	P < .001	-5.21	P < .001
51	wf of RESPONSIVENESS	2254.5	2.944	.001 < P < .01	-2.85	.001 < P < .01
52	wf of TECHNICAL SKILLS	1200.0	6.922	P < .001	-6.50	P < .001
53	wf of PRODUCTIVITY AND ACHIEVEMENT	375.0	9.644	P < .001	-10.08	P < .001
54	wf of AWARDS AND PUNISHMENT	2701.0	1.000	P > .05	-1.00	P > .05
55	wf of DRIVE	698.5	8.624	P < .001	-9.30	P < .001
56	wf of SERVICE MOTIVATION	1831.0	4.838	P < .001	-4.48	P < .001
57	wf of POTENTIAL	1356.0	6.119	P < .001	-6.11	P < .001
58	wf of REPUTE	2110.0	4.146	P < .001	-3.92	P < .001
59	wf of ASSET TO THE NAVY	1721.0	5.358	P < .001	-5.40	P < .001
60	Sum of Variables 31 through 59	151.5	10.005	P < .001	-12.21	P < .001

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED *z* VALUES AND *t* TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. UPPER CRITERION GROUPS COMPARISON OF THE GENERALIZATION SAMPLE ON THE JUSTIFICATION SECTION (19S)

No. of Variable	Name of Variable	Value of U	Absolute Value of z	Probability Level	Value of t	Probability Level
61	Total Number of 3 Weights	278.5	9.646	P < .001	-10.19	P < .001
62	Total Number of 2 Weights	307.5	9.439	P < .001	-10.80	P < .001
63	Total Number of 1 Weights	420.0	9.179	P < .001	-8.80	P < .001
64	Total Number of -1 Weights	2702.5	0.435	P > .05	-0.45	P > .05
65	Total Number of -2 Weights	2738.0	0.000	P > .05	-0.45	P > .05
66	Total Number of Words in Text	232.0	9.693	P < .001	-10.74	P < .001
67	Total Number of Index Terms Used	149.5	10.019	P < .001	-17.08	P < .001

MANN-WHITNEY U TESTS WITH ASSOCIATED *z* VALUES AND *t* TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. MIDDLE CRITERION GROUPS COMPARISON OF THE GENERALIZATION SAMPLE ON THE JUSTIFICATION SECTION (19S)

No. of Variable	Name of Variable	Value of U	Absolute Value of z	Probability Level	Value of t	Probability Level
1	f of MANAGEMENT FUNCTIONS	2179.5	3.871	P < .001	-3.93	P < .001
2	f of CONTROLLING	2247.5	3.103	.001 < P < .01	-3.18	.001 < P < .01
3	f of LEADERSHIP AND DIRECTING	1652.0	5.248	P < .001	-4.83	P < .001
4	f of ORGANIZATION	2511.5	1.836	P > .05	-2.02	.01 < P < .05
5	f of PLANNING	2032.0	4.154	P < .001	-4.10	P < .001
6	f of REPRESENTATION	2626.0	1.372	P > .05	-1.48	P > .05
7	f of STAFFING	2486.5	1.966	.01 < P < .05	-1.40	P > .05
8	f of USE OF COMMUNICATION	2737.0	0.014	P > .05	-0.38	P > .05
9	f of SKILLS AND ABILITIES	1889.5	4.841	P < .001	-4.66	P < .001
10	f of COMMUNICATION	2382.0	1.947	P > .05	-1.50	P > .05
11	f of CONDUCT, INTEGRITY, AND PRIDE	1471.5	5.440	P < .001	-5.31	P < .001
12	f of COOPERATION	2378.0	1.922	P > .05	-1.60	P > .05
13	f of ENDURANCE	2440.5	2.623	.001 < P < .01	-2.52	.01 < P < .05
14	f of FLEXIBILITY	2626.0	1.168	P > .05	-1.29	P > .05
15	f of GROOMING AND ATTIRE	1765.0	4.433	P < .001	-3.02	.001 < P < .01
16	f of INITIATIVE	1750.0	5.234	P < .001	-4.16	P < .001
17	f of INTELLECTUAL FUNCTIONING	2409.0	2.412	.01 < P < .05	-2.06	.01 < P < .05
18	f of PROFESSIONALISM	2256.0	3.534	P < .001	-3.38	P = .001
19	f of RELIABILITY AND DEPENDABILITY	1419.5	6.080	P < .001	-6.21	P < .001
20	f of RESOURCEFULNESS	2208.0	3.290	P = .001	-3.41	P = .001
21	f of RESPONSIVENESS	2321.0	2.641	.001 < P < .01	-2.85	.001 < P < .01
22	f of TECHNICAL SKILLS	1860.0	4.500	P < .001	-3.73	P < .001
23	f of PRODUCTIVITY AND ACHIEVEMENT	653.5	8.681	P < .001	-8.06	P < .001
24	f of AWARDS AND PUNISHMENT	2738.0	0.000	P > .05	-8.06	P > .05
25	f of DRIVE	1182.0	6.984	P < .001	-6.62	P < .001
26	f of SERVICE MOTIVATION	2401.0	2.338	.01 < P < .05	-2.42	.01 < P < .05
27	f of POTENTIAL	1978.0	3.746	P < .001	-3.14	.001 < P < .01
28	f of REPUTE	2331.0	3.184	.001 < P < .01	-3.29	P = .001
29	f of ASSET TO THE NAVY	2144.5	3.692	P < .001	-3.66	P < .001
30	Sum of Variables 1 through 29	478.0	8.753	P < .001	-9.32	P < .001

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED *z* VALUES AND *t* TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. MIDDLE CRITERION GROUPS COMPARISON OF THE GENERALIZATION SAMPLE ON THE JUSTIFICATION SECTION (19S)

No. of Variable	Name of Variable	Value of U	Absolute Value of *z*	Probability Level	Value of *t*	Probability Level
31	wf of MANAGEMENT FUNCTIONS	2177.0	3.887	P < .001	-3.92	P < .001
32	wf of CONTROLLING	2313.5	2.684	.001 < P < .01	-3.13	.001 < P < .01
33	wf of LEADERSHIP AND DIRECTING	1639.5	5.300	P < .001	-4.74	P < .001
34	wf of ORGANIZATION	2505.5	1.884	P > .05	-2.32	.01 < P < .05
35	wf of PLANNING	2034.0	4.138	P < .001	-3.88	P < .001
36	wf of REPRESENTATION	2626.0	1.372	P > .05	-1.50	P > .05
37	wf of STAFFING	2491.0	1.930	P > .05	-1.09	P > .05
38	wf of USE OF COMMUNICATION	2738.0	0.000	P > .05	-0.00	P > .05
39	wf of SKILLS AND ABILITIES	1889.0	4.836	P < .001	-4.53	P < .001
40	wf of COMMUNICATION	2310.5	2.335	.01 < P < .05	-1.75	P > .05
41	wf of CONDUCT, INTEGRITY, AND PRIDE	1559.0	5.047	P < .001	-4.50	P < .001
42	wf of COOPERATION	2390.5	1.852	P > .05	-1.18	P > .05
43	wf of ENDURANCE	2439.0	2.636	.001 < P < .01	-2.49	.01 < P < .05
44	wf of FLEXIBILITY	2625.0	1.178	P > .05	-1.38	P > .05
45	wf of GROOMING AND ATTIRE	1735.5	4.543	P < .001	-3.09	.001 < P < .01
46	wf of INITIATIVE	1751.0	5.203	P < .001	-3.68	P < .001
47	wf of INTELLECTUAL FUNCTIONING	2414.0	2.373	.01 < P < .05	-1.79	P > .05
48	wf of PROFESSIONALISM	2258.0	3.516	P < .001	-2.97	.001 < P < .01
49	wf of RELIABILITY AND DEPENDABILITY	1439.5	5.961	P < .001	-5.51	P < .001
50	wf of RESOURCEFULNESS	2231.0	3.143	.001 < P < .01	-2.61	P = .01
51	wf of RESPONSIVENESS	2324.0	2.619	.001 < P < .01	-2.65	.001 < P < .01
52	wf of TECHNICAL SKILLS	1839.0	4.584	P < .001	-4.09	P < .001
53	wf of PRODUCTIVITY AND ACHIEVEMENT	614.0	8.805	P < .001	-8.05	P < .001
54	wf of AWARDS AND PUNISHMENT	2738.0	0.000	P > .05	-8.05	P > .05
55	wf of DRIVE	1223.0	6.781	P < .001	-6.08	P < .001
56	wf of SERVICE MOTIVATION	2395.0	2.377	.01 < P < .05	-2.58	.01 < P < .05
57	wf of POTENTIAL	1972.5	3.757	P < .001	-2.79	.001 < P < .01
58	wf of REPUTE	2333.5	3.160	.001 < P < .01	-2.89	.001 < P < .01
59	wf of ASSET TO THE NAVY	2137.5	3.724	P < .001	-3.66	P < .001
60	Sum of Variables 31 through 59	523.0	8.576	P < .001	-9.25	P < .001

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED z VALUES AND t TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE LOWER VS. MIDDLE CRITERION GROUPS COMPARISON OF THE GENERALIZATION SAMPLE ON THE JUSTIFICATION SECTION (19S)

No. of Variable	Name of Variable	Value of U	Absolute Value of z	Probability Level	Value of t	Probability Level
61	Total Number of 3 Weights	964.0	7.088	P < .001	-7.29	P < .001
62	Total Number of 2 Weights	744.0	7.768	P < .001	-7.49	P < .001
63	Total Number of 1 Weights	762.5	7.914	P < .001	-8.08	P < .001
64	Total Number of -1 Weights	2738.0	0.000	P > .05	0.00	P > .05
65	Total Number of -2 Weights	2738.0	0.000	P > .05	0.00	P > .05
66	Total Number of Words in Text	569.0	8.396	P < .001	-8.66	P < .001
67	Total Number of Index Terms Used	466.0	8.806	P < .001	-11.39	P < .001

MANN-WHITNEY U TESTS WITH ASSOCIATED *z* VALUES AND *t* TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE MIDDLE VS. UPPER CRITERION GROUPS COMPARISON OF THE GENERALIZATION SAMPLE ON THE JUSTIFICATION SECTION (19S)

No. of Variable	Name of Variable	Value of U	Absolute Value of *z*	Probability Level	Value of *t*	Probability Level
1	f of MANAGEMENT FUNCTIONS	2440.0	1.467	P > .05	-1.59	P > .05
2	f of CONTROLLING	2155.0	2.668	.001 < P < .01	-2.37	.01 < P < .05
3	f of LEADERSHIP AND DIRECTING	1812.0	3.692	P < .001	-3.31	P = .001
4	f of ORGANIZATION	2625.5	0.712	P > .05	-0.50	P > .05
5	f of PLANNING	2556.5	0.837	P > .05	-1.15	P > .05
6	f of REPRESENTATION	2593.0	1.175	P > .05	-0.62	P > .05
7	f of STAFFING	2633.5	0.638	P > .05	-0.19	P > .05
8	f of USE OF COMMUNICATION	2556.5	1.681	P > .05	-1.19	P > .05
9	f of SKILLS AND ABILITIES	2126.0	2.617	.001 < P < .01	-2.73	.001 < P < .01
10	f of COMMUNICATION	1838.5	3.862	P < .001	-3.57	P = .001
11	f of CONDUCT, INTEGRITY, AND PRIDE	2123.0	2.413	.01 < P < .05	-2.41	.01 < P < .05
12	f of COOPERATION	1903.5	3.585	P < .001	-3.48	P = .001
13	f of ENDURANCE	2712.5	0.169	P > .05	0.49	P > .05
14	f of FLEXIBILITY	2704.0	0.287	P > .05	0.00	P > .05
15	f of GROOMING AND ATTIRE	2474.5	1.089	P > .05	-0.56	P > .05
16	f of INITIATIVE	2041.0	2.950	.001 < P < .01	-3.09	.001 < P < .01
17	f of INTELLECTUAL FUNCTIONING	2444.5	1.588	P > .05	-1.82	P > .05
18	f of PROFESSIONALISM	2096.0	3.067	.001 < P < .01	-3.18	.001 < P < .01
19	f of RELIABILITY AND DEPENDABILITY	2143.5	2.390	.01 < P < .05	-2.69	.001 < P < .01
20	f of RESOURCEFULNESS	2223.0	2.364	.01 < P < .05	-2.00	.01 < P < .05
21	f of RESPONSIVENESS	2276.0	0.325	P > .05	-0.15	P > .05
22	f of TECHNICAL SKILLS	1894.0	3.495	P < .001	-3.82	P < .001
23	f of PRODUCTIVITY AND ACHIEVEMENT	2366.5	1.459	P > .05	-1.54	P > .05
24	f of AWARDS AND PUNISHMENT	2701.0	1.000	P > .05	-1.00	P > .05
25	f of DRIVE	1867.0	3.411	P < .001	-3.66	P < .001
26	f of SERVICE MOTIVATION	2180.0	2.740	.001 < P < .01	-2.46	.01 < P < .05
27	f of POTENTIAL	1947.0	3.271	.001 < P < .01	-3.79	P < .001
28	f of REPUTE	2492.0	1.351	P > .05	-1.72	P > .05
29	f of ASSET TO THE NAVY	2282.5	2.119	.01 < P < .05	-2.23	.01 < P < .05
30	Sum of Variables 1 through 29	1502.5	4.742	P < .001	-4.80	P < .001

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED *z* VALUES AND *t* TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE MIDDLE VS. UPPER CRITERION GROUPS COMPARISON OF THE GENERALIZATION SAMPLE ON THE JUSTIFICATION SECTION (19S)

No. of Variable	Name of Variable	Value of U	Absolute Value of *z*	Probability Level	Value of *t*	Probability Level
31	wf of MANAGEMENT FUNCTIONS	2443.5	1.447	P > .05	-1.47	P > .05
32	wf of CONTROLLING	2128.0	2.781	.001 < P < .01	-2.34	.01 < P < .05
33	wf of LEADERSHIP AND DIRECTING	1847.5	3.530	P < .001	-3.17	.001 < P < .01
34	wf of ORGANIZATION	2620.5	0.743	P > .05	-0.74	P > .05
35	wf of PLANNING	2534.5	0.934	P > .05	-0.97	P > .05
36	wf of REPRESENTATION	2592.5	1.179	P > .05	-0.92	P > .05
37	wf of STAFFING	2625.0	0.688	P > .05	-0.19	P > .05
38	wf of USE OF COMMUNICATION	2555.0	1.695	P > .05	-1.45	P > .05
39	wf of SKILLS AND ABILITIES	2086.0	2.762	.001 < P < .01	-2.96	.001 < P < .01
40	wf of COMMUNICATION	1875.5	3.680	P < .001	-3.81	P < .001
41	wf of CONDUCT, INTEGRITY, AND PRIDE	1976.5	2.960	.001 < P < .01	-3.12	.001 < P < .01
42	wf of COOPERATION	1917.5	3.489	P < .001	-3.13	.001 < P < .01
43	wf of ENDURANCE	2704.0	0.224	P > .05	0.19	P > .05
44	wf of FLEXIBILITY	2701.0	0.312	P > .05	-0.29	P > .05
45	wf of GROOMING AND ATTIRE	2425.0	1.252	P > .05	-0.44	P > .05
46	wf of INITIATIVE	2007.0	3.007	.001 < P < .01	-3.27	P = .001
47	wf of INTELLECTUAL FUNCTIONING	2470.0	1.447	P > .05	-1.37	P > .05
48	wf of PROFESSIONALISM	2087.0	3.094	.001 < P < .01	-3.13	.001 < P < .01
49	wf of RELIABILITY AND DEPENDABILITY	2019.5	2.836	.001 < P < .01	-2.96	.001 < P < .01
50	wf of RESOURCEFULNESS	2141.5	2.720	.001 < P < .01	-2.91	.001 < P < .01
51	wf of RESPONSIVENESS	2680.0	0.303	P > .05	0.00	P > .05
52	wf of TECHNICAL SKILLS	1919.0	3.348	P < .001	-3.90	P < .001
53	wf of PRODUCTIVITY AND ACHIEVEMENT	2100.0	2.463	.01 < P < .05	-2.25	.01 < P < .05
54	wf of AWARDS AND PUNISHMENT	2701.0	1.000	P > .05	-1.00	P > .05
55	wf of DRIVE	1808.5	3.617	P < .001	-3.79	P < .001
56	wf of SERVICE MOTIVATION	2197.0	2.636	.001 < P < .01	-2.07	.01 < P < .05
57	wf of POTENTIAL	1930.0	3.294	P < .001	-3.69	P < .001
58	wf of REPUTE	2488.0	1.367	P > .05	-1.75	P > .05
59	wf of ASSET TO THE NAVY	2294.0	2.040	.01 < P < .05	-2.08	.01 < P < .05
60	Sum of Variables 31 through 59	1405.0	5.113	P < .001	-5.25	P < .001

(Continued)

MANN-WHITNEY U TESTS WITH ASSOCIATED z VALUES AND t TESTS OF MEAN DIFFERENCE ON ALL 67 VARIABLES FOR THE MIDDLE VS. UPPER CRITERION GROUPS COMPARISON OF THE GENERALIZATION SAMPLE ON THE JUSTIFICATION SECTION (19S)

No. of Variable	Name of Variable	Value of U	Absolute Value of z	Probability Level	Value of t	Probability Level
61	Total Number of 3 Weights	1491.0	4.817	P < .001	-4.82	P < .001
62	Total Number of 2 Weights	1574.0	4.477	P < .001	-4.68	P < .001
63	Total Number of 1 Weights	2088.5	2.498	.01 < P < .05	-2.76	.001 < P < .01
64	Total Number of -1 Weights	2702.5	0.435	P > .05	-0.45	P > .05
65	Total Number of -2 Weights	2738.0	0.000	P > .05	-0.45	P > .05
66	Total Number of Words in Text	1554.5	4.539	P < .001	-4.47	P < .001
67	Total Number of Index Terms Used	1440.0	4.990	P < .001	-5.42	P < .001

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